

# Missouri Western 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>Missouri Western State University</u>			<u>Semester</u>	<u>Missouri S&amp;T</u>			
MAT 167	Calculus with Analytic Geometry I	5		MATH 1214	Calculus for Engineers I	4	
MAT 177	Calculus with Analytic Geometry II	5		MATH 1215	Calculus for Engineers II	4	
MAT 287	Calculus with Analytic Geometry III	3		MATH 2222	Calculus with Analytic Geometry III	4	
MAT 317	Differential Equations	3		MATH 3304	Elementary Differential Equations	3	
PHY 210	University Physics I	5		PHYSICS 1135	Engineering Physics I	4	
PHY 211	University Physics II	5		PHYSICS 2135	Engineering Physics II	4	
CHE 111	General Chemistry I	5		CHEM 1310, 1319	General Chemistry I and Lab	5	
ENG 104	College Writing and Rhetoric	3		ENGLISH 1120	Exposition and Argumentation	3	
ECO 261 or ECO 260	Principles of Microeconomics or Principles of Macroeconomics	3		ECON 1100 or ECON 1200	Principles of Microeconomics or 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 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](http://ugs.mst.edu). Your campus may have additional acceptable options. Consult with your advisor or email [transfer@mst.edu](mailto:transfer@mst.edu) with questions.

## Aerospace Engineering Group 2 Major Requirements

<u>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Engineering Design with Computer Appl	3
HIS 140 or HIS 150 or HIS 230 or PSC 101	American History to 1865 or American History since 1865 or Modern Europe: 1789 to the Present or American National 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
ENG 108 or COM 104 or EGT 350	College Writing and Research or Oral Communication or Technical Report Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
EGT 265	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CET 260	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
MAT 306	Linear Algebra	3	MATH 3108	Linear Algebra I (Will satisfy the Advanced Math/Comp Sci elective requirement.)	3
	Literature Elective	3		Literature Elective	3
	Ethics Elective	3		Ethics 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	24
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	61		Total Hours*	58

\*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>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Engineering Design with Computer Appl	3
HIS 230 (or HIS 140 or HIS 150)	Modern Europe: 1789 to the Present (or American History to 1865 or American History since 1865) <small>*HIS 230 is preferred; 140 or 150 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
EGT 265	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGT 400	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
CET 260	Mechanics of Materials	3	CIV ENG 2210, 2211	Mechanics of Materials and Materials Testing	4
EGT 202	Surveying I	3	CIV ENG 2401	Fundamentals of Surveying	3
ENG 108 or COM 104 or HSS Elective	College Writing and Research or 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
ESC 111	Physical Geology	4	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	37		Group 1 Core Requirements	34
	Total Hours	62		Total Hours*	59

\*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>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Engineering Design with Computer Appl	3
HIS 140 or HIS 150 or HIS 230 or PSC 101	American History to 1865 or American History since 1865 or Modern Europe: 1789 to the Present or American National 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
EGT 265	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CET 260	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
CHE 310	Organic Chemistry I	3	CHEM 2210	Organic Chemistry I <small>(Not a specific requirement. Will satisfy the advanced chemistry elective requirement.)</small>	3
CHEM 120	General Chemistry II	5	CHEM 1320	General Chemistry II	3
ENG 108 or COM 104 or HSS Elective	College Writing and Research or 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
	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	26		Group 2 Major Requirements	24
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	63		Total Hours*	58

\*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>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Engineering Design with Computer Appl	3
ENG 108 or EGT 350	College Writing and Research or Technical Report Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIS 140 or HIS 150 or HIS 230 or PSC 101	American History to 1865 or American History since 1865 or Modern Europe: 1789 to the Present or American National 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 120	General Chemistry II	5	CHEM 1320	General Chemistry II	3
CHE 310, 311	Organic Chemistry I and Lab	5	CHEM 2210, 2219	Organic Chemistry I and Lab	4
BIO 106	Principles of Cell Biology	4	BIO SCI 2213, 2219	Cell Biology and Lab	4
CSC 254 or CSC 285 or CSC 184	Object Oriented Programming pending or Discrete Structures or Intro to Computer Programming	3	CS 1500	Computational Problem Solving	3
COM 104	Oral Communication	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	39		Group 2 Major Requirements	36
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	76		Total Hours*	70

\*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>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Engineering Design with Computer Appl	3
ENG 108 or EGT 350	College Writing and Research or Technical Report Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIS 140 or HIS 150 or HIS 230 or PSC 101	American History to 1865 or American History since 1865 or Modern Europe: 1789 to the Present or American National 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 120	General Chemistry II	5	CHEM 1320	General Chemistry II	3
CHE 310, 311	Organic Chemistry I and Lab	5	CHEM 2210, 2219	Organic Chemistry I and Lab	4
BIO 106	Principles of Cell Biology	4	BIO SCI 2213, 2219	Cell Biology and Lab	4
CSC 254 or CSC 285 or CSC 184	Object Oriented Programming pending or Discrete Structures or Intro to Computer Programming	3	CS 1500	Computational Problem Solving	3
COM 104	Oral Communication	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	39		Group 2 Major Requirements	36
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	76		Total Hours*	70

\*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>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Engineering Design with Computer Appl	3
ENG 108 or COM 104 or EGT 350	College Writing and Research or Oral Communication or Technical Report Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing	3
HIS 140 or HIS 150 or HIS 230 or PSC 101	American History to 1865 or American History since 1865 or Modern Europe: 1789 to the Present or American National 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
ESC 111	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
EGT 265	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGT 400	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
CET 260	Mechanics of Materials	3	CIV ENG 2210, 2211	Mechanics of Materials and Materials Testing	4
EGT 202	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	28		Group 2 Major Requirements	28
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	65		Total Hours*	62

\*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>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
COM 104	Oral Communication	3	SPMS 1185	Public Speaking	3
ENG 108 or EGT 350	College Writing and Research or Technical Report Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIS 140 or HIS 150 or HIS 230 or PSC 101	American History to 1865 or American History since 1865 or Modern Europe: 1789 to the Present or American National 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
CSC 208	Discrete Structures	3	CS 1200	Discrete Math for Computer Science	3
CSC 254 or CSC 285 or CSC 184	Object Oriented Programming pending or Discrete Structures or Intro to Computer Programming	3	CS 1500	Computational Problem Solving	3
EGT 265 and EGT 400 (BOTH of the courses above or ONE of the courses below.) OR	Engineering Statics (3) and Dynamics (3) (Both courses above combined or any one of the following courses will satisfy a required engineering science elective.) OR	3	CIV ENG 2200 and MECH ENG 2350 (BOTH of the courses above or ONE of the courses below.) OR	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	3
CHE 310 or BIO 106 or BIO 205	Organic Chemistry I (3) or Principles of Cell Biology (4) or Genetics (4)		CHEM 2210 or BIO SCI 2213 or BIO SCI 2223	Organic Chemistry I (3) or Cell Biology (3) or General Genetics (3)	
MAT 306	Linear Algebra	3	MATH 3108	Linear Algebra I (Will satisfy a required math elective.)	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	0		Maximum Free Electives	3
	Group 2 Major Requirements	24		Group 2 Major Requirements	27
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	61		Total Hours*	61

\*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>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Engineering Design with Computer Appl	3
COM 104	Oral Communication	3	SPMS 1185	Public Speaking	3
ENG 108 or EGT 350	College Writing and Research or Technical Report Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIS 140 or HIS 150 or HIS 230 or PSC 101	American History to 1865 or American History since 1865 or Modern Europe: 1789 to the Present or American National 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
CSC 254 or CSC 285 or CSC 184	Object Oriented Programming pending or Discrete Structures or Intro to Computer Programming	3	CS 1500	Computational Problem Solving	3
EGT 265 and EGT 400 (BOTH of the courses above or ONE of the courses below.) OR	Engineering Statics (3) and Dynamics (3) (Both courses above combined or any one of the following courses will satisfy a required engineering science elective.) OR	3	CIV ENG 2200 and MECH ENG 2350 (BOTH of the courses above or ONE of the courses below.) OR	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	3
CHE 310 or BIO 106 or BIO 205	Organic Chemistry I (3) or Principles of Cell Biology (4) or Genetics (4)		CHEM 2210 or BIO SCI 2213 or BIO SCI 2223	Organic Chemistry I (3) or Cell Biology (3) or General Genetics (3)	
MAT 306	Linear Algebra	3	MATH 3108	Linear Algebra I	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	3		Maximum Free Electives	3
	Group 2 Major Requirements	27		Group 2 Major Requirements	27
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	64		Total Hours*	61

\*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>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Engineering Design with Computer Appl	3
PSY 101	General Psychology	3	PSYCH 1101	General Psychology	3
HIS 140 or HIS 150 or HIS 230 or PSC 101	American History to 1865 or American History since 1865 or Modern Europe: 1789 to the Present or American National 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
ENG 108 or COM 104 or EGT 350	College Writing and Research or Oral Communication or Technical Report Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
EGT 265	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGT 400	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
CET 260	Mechanics of Materials	3	CIV ENG 2210, 2211	Mechanics of Materials and Materials Testing	4
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	3		Maximum Free Electives	3
	Group 2 Major Requirements	27		Group 2 Major Requirements	28
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	64		Total Hours*	62

\*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>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Engineering Design with Computer Appl	3
ENG 108 or COM 104 or EGT 350	College Writing and Research or Oral Communication or Technical Report Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing	3
HIS 140 or HIS 150 or HIS 230	American History to 1865 or American History since 1865 or Modern Europe: 1789 to the Present	3	HISTORY 1300 or HISTORY 1310 or HISTORY 1200	American History to 1877 or American History since 1877 or Modern Western Civilization	3
ESC 111	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
CHEM 120	General Chemistry II	5	CHEM 1320	General Chemistry II	3
			BIO SCI 1113	General Biology	4
EGT 265	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGT 400	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
CET 260	Mechanics of Materials	3	CIV ENG 2210, 2211	Mechanics of Materials and Materials Testing	4
	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	30		Group 2 Major Requirements	32
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	67		Total Hours*	66

\*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>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Engineering Design with Computer Appl	3
ENG 108 or COM 104 or EGT 350	College Writing and Research or Oral Communication or Technical Report Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing	3
HIS 140 or HIS 150 or HIS 230 or PSC 101	American History to 1865 or American History since 1865 or Modern Europe: 1789 to the Present or American National 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
ESC 111	Physical Geology	4	GEO ENG 1150 (GEOLOGY 1110)	Physical and Environmental Geology	3
EGT 265	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGT 400	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
CET 260	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
BIO 101 or CHE 120 or CHE 310	Principles of Biology (4) or General Chemistry II (5) or Organic Chemistry I (3) <small>or any 3-hour course in chemistry, geochemistry, or biology. Satisfies chemistry/geochemistry elective requirement.</small>	3	BIO SCI 1113 or CHEM 1320 or CHEM 2210	General Biology or General Chemistry II or Organic Chemistry I <small>or any 3-hour course in chemistry, geochemistry, or biology. Satisfies chemistry/geochemistry elective requirement.</small>	3
	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	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 Geological Engineering degree.

## Mechanical Engineering Group 2 Major Requirements

<u>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Engineering Design with Computer Appl	3
HIS 140 or HIS 150 or HIS 230 or PSC 101	American History to 1865 or American History since 1865 or Modern Europe: 1789 to the Present or American National 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
ENG 108 or COM 104 or EGT 350	College Writing and Research or Oral Communication or Technical Report Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
EGT 265	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CET 260	Mechanics of Materials	3	CIV ENG 2210, 2211	Mechanics of Materials and Materials Testing	4
MAT 306	Linear Algebra	3	MATH 3108	Linear Algebra I <small>(Will satisfy the Advanced Math/Comp Sci elective requirement.)</small>	3
	Literature Elective	3	MET ENG 2110	Metallurgy for Engineers	3
	Humanities/Social Science Elective	3		Literature Elective	3
	<i>No free electives applied to the degree.</i>	0		Humanities/Social Science Elective	3
	Group 2 Major Requirements	24		Maximum Free Electives	0
	Group 1 Core Requirements	37		Group 2 Major Requirements	28
	Total Hours	61		Group 1 Core Requirements	34
				Total Hours*	62

\*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>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Engineering Design with Computer Appl	3
ENG 108 or COM 104 or EGT 350	College Writing and Research or Oral Communication or Technical Report Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Public Speaking or Technical Writing	3
HIS 140 or HIS 150 or HIS 230 or PSC 101	American History to 1865 or American History since 1865 or Modern Europe: 1789 to the Present or American National 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
EGT 265	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CET 260	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
CHEM 120	General Chemistry II	5	CHEM 1320	General Chemistry II	3
CHE 310	Organic Chemistry I	3	CHEM 2210	Organic Chemistry I <i>Not specifically required for the degree but will satisfy Out-of-Department Technical Elective Requirement.</i>	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	5		Maximum Free Electives	5
	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 Metallurgical Engineering degree.

## Mining Engineering Group 2 Major Requirements

<u>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Engineering Design with Computer Appl	3
ENG 108 or EGT 350 or ETC 200	College Writing and Research or Technical Report Writing or Intro to Technical Communication	3	ENGLISH 1160 or ENGLISH 3560 or ENGLISH 1600	Writing and Research or Technical Writing or Intro to Technical Communications	3
HIS 140 or HIS 150 or HIS 230 or PSC 101	American History to 1865 or American History since 1865 or Modern Europe: 1789 to the Present or American National 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
EGT 265	Engineering Statics	3	CIV ENG 2200*	Engineering Mechanics-Statics	3
EGT 400	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
CET 260	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
ESC 111	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
	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	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 Mining Engineering degree.



## Nuclear Engineering Group 2 Major Requirements

<u>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Engineering Design with Computer Appl	3
ENG 108 or EGT 350	College Writing and Research or Technical Report Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIS 140 or HIS 150 or HIS 230 or PSC 101	American History to 1865 or American History since 1865 or Modern Europe: 1789 to the Present or American National 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
MAT 306	Linear Algebra	3	MATH 3108	Linear Algebra I	3
EGT 265	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CET 260	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>See your advisor for course options.</i>	6		Maximum Free Electives	6
	Group 2 Major Requirements	30		Group 2 Major Requirements	30
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	67		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>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Engineering Design with Computer Appl	3
ENG 108 or EGT 350 or ETC 200	College Writing and Research or Technical Report Writing or Intro to Technical Communication	3	ENGLISH 1160 or ENGLISH 3560 or ENGLISH 1600	Writing and Research or Technical Writing or Intro to Technical Communications	3
HIS 140 or HIS 150 or HIS 230 or PSC 101	American History to 1865 or American History since 1865 or Modern Europe: 1789 to the Present or American National 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
ESC 111	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
EGT 265	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGT 400	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	3
CET 260	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
	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	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 Petroleum Engineering degree.