

Missouri Western State University — Missouri S&T

General Engineering

Transfer Guide Effective as of Fall 2024

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&T</u>			
MAT 167	Calculus with Analytic Geometry I	5	MATH 1214	Calculus I <small>Grade of C or better is required.</small>	4	
MAT 177	Calculus with Analytic Geometry II	5	MATH 1215	Calculus II <small>Grade of C or better is required.</small>	4	
MAT 287	Calculus with Analytic Geometry III	3	MATH 2222	Calculus III <small>Grade of C or better is required.</small>	4	
MAT 317	Differential Equations	3	MATH 3304	Elementary Differential Equations	3	
PHY 210	University Physics I	5	PHYSICS 1135	Engineering Physics I <small>Grade of C or better is required.</small>	4	
PHY 211	University Physics II	5	PHYSICS 2135	Engineering Physics II <small>Grade of C or better is required.</small>	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
Biomedical Engineering/Biomanufacturing or Biomaterials
Ceramic Engineering
Chemical Engineering and Biochemistry Emphasis
Civil Engineering
Computer Engineering
Electrical Engineering

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

Engineering Major Requirements are detailed on the following pages.

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

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

<u>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Intro to Engineering Design	3
HIS 230 or HIS 140 or HIS 150 or PSC 101	Modern Europe: 1789 to the Present or American History to 1865 or American History since 1865 or American National Government	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 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
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		Literature Elective	3
PHL 230	Ethics <small>or other engineering, business, bio, social ethics approved by advisor</small>	3	PHILOS 1130	How Should I Live? An Introduction to Ethics <small>or other engineering, business, bio, social ethics approved by advisor</small>	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	21		Group 2 Major Requirements	21
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	58		Total Hours*	55

*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&T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Intro to Engineering Design	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	2
EGT 202	Surveying I	3	CIV ENG 2401	Fundamentals of Surveying	3
ESC 111	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
Humanities or Social Science or Communication	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language or one communication course from this list: ENG 108, COM 104, EGT 350.	3	Humanities or Social Science or Communication	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language or one communication course from this list: ENGLISH 1160, 1600, 3560 or SPMS 1185.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	22		Group 2 Major Requirements	20
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	59		Total Hours*	54

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

Biomedical Engineering-Biomanufacturing Group 2 Major Requirements

<u>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
COM 104	Oral Communication	3	SP&MS 1185	Principles of Speech	3
EGT 350	Technical Report Writing	3	ENGLISH 3560	Technical Writing	3
HIS 230 or HIS 140 or HIS 150 or PSC 101	Modern Europe: 1789 to the Present or American History to 1865 or American History since 1865 or American National Government	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
CHEM 120	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&T degree requirement. Will transfer as general credit.</small>	3
CHE 310, 311	Organic Chemistry I and Lab	5	CHEM 2210, 2219	Organic Chemistry I and Lab	4
BIO 101 or BIO 205	Principles of Biology or Genetics	4	BIO SCI 1113, 1219 or BIO SCI 2223	General Biology and Lab or General Genetics <small>Applies to degree as Track Elective.</small>	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 or Discrete Structures or Intro to Computer Programming	3	CS 1500	Computational Problem Solving	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any 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	33		Group 2 Major Requirements	30
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	70		Total Hours*	64

*S&T advisor permission is required to transfer more than 68 credit hours toward the degree.

Biomedical Engineering-Biomaterials Group 2 Major Requirements

<u>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
COM 104	Oral Communication	3	SP&MS 1185	Principles of Speech	3
EGT 350	Technical Report Writing	3	ENGLISH 3560	Technical Writing	3
HIS 230 or HIS 140 or HIS 150 or PSC 101	Modern Europe: 1789 to the Present or American History to 1865 or American History since 1865 or American National Government	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
CHEM 120	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&T degree requirement. Will transfer as general credit.</small>	3
CHE 310, 311	Organic Chemistry I and Lab	5	CHEM 2210, 2219*	Organic Chemistry I and Lab* <small>*CHEM 2219 Lab applies to the degree as a Track Elective (non-engineering).</small>	4
BIO 101	Principles of Biology	4	BIO SCI 1113*, 1219*	General General Biology* and Lab* <small>*Applies to degree as Track Elective (Non-engineering).</small>	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 or Discrete Structures or Intro to Computer Programming	3	CS 1500	Computational Problem Solving	3
EGT 265	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	33		Group 2 Major Requirements	30
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	70		Total Hours*	64

*S&T advisor permission is required to transfer more than 65 credits toward the S&T Biomedical Engineering degree.

Ceramic Engineering Group 2 Major Requirements

<u>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Intro to Engineering Design	3
HIS 230 or HIS 140 or HIS 150 or PSC 101	Modern Europe: 1789 to the Present or American History to 1865 or American History since 1865 or American National Government	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
EGT 265	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CHE 310	Organic Chemistry I	3	CHEM 2210	Organic Chemistry I <i>Will satisfy the advanced chemistry elective requirement.</i>	3
CHEM 120	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <i>*CHEM 1510 is not an S&T degree requirement. Will transfer as general credit.</i>	3
ENG 108 or COM 104 or HSS Elective	College Writing and Research or Oral Communication or Any 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 Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any 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	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 or Chemical Engineering - Biochemical Engineering Emphasis Group 2 Major Requirements

<u>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Intro to Engineering Design	3
COM 104	Oral Communication	3	SP&MS 1185	Principles of Speech	3
EGT 350	Technical Report Writing	3	ENGLISH 3560	Technical Writing	3
HIS 230 or HIS 140 or HIS 150 or PSC 101	Modern Europe: 1789 to the Present or American History to 1865 or American History since 1865 or American National Government	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
CHEM 120	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <i>*CHEM 1510 is not an S&T degree requirement. Will transfer as general credit.</i>	3
CHE 310, 311	Organic Chemistry I and Lab	5	CHEM 2210, 2219*	Organic Chemistry I and Lab* <i>*The lab will apply to the degree as 1 of the 9 science elective credits (below).</i>	4
BIO 106	Principles of Cell Biology	4	BIO SCI 2213, 2219	Cell Biology and Lab <i>Will satisfy science elective requirement. Select up to 9 hours from these options or CHEM 2219 Organic Chemistry Lab.</i>	8
CSC 254 or CSC 285 or CSC 184	Object Oriented Programming or Discrete Structures or Intro to Computer Programming	3	CS 1500	Computational Problem Solving	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any 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	32		Group 2 Major Requirements	33
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	69		Total Hours*	67

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

Civil Engineering Group 2 Major Requirements

<u>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Intro to Engineering Design	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
HIS 230 or HIS 140 or HIS 150 or PSC 101	Modern Europe: 1789 to the Present or American History to 1865 or American History since 1865 or American National Government	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
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	2
EGT 202	Surveying I	3	CIV ENG 2401	Fundamentals of Surveying	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any 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	25		Group 2 Major Requirements	23
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	62		Total Hours*	57

*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&T</u>		
COM 104	Oral Communication	3	SPMS 1185	Principles of Speech	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 230 or HIS 140 or HIS 150 or PSC 101	Modern Europe: 1789 to the Present or American History to 1865 or American History since 1865 or American National Government	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 208	Discrete Structures	3	CS 1200	Discrete Math for Computer Science	3
CSC 254 or CSC 285 or CSC 184	Object Oriented Programming or Discrete Structures or Intro to Computer Programming	3	CS 1500	Computational Problem Solving	3
EGT 265 or EGT 400 or CHE 310 or BIO 106 or BIO 205	Engineering Statics (3) or Dynamics (3) or Organic Chemistry I (3) or Principles of Cell Biology (4) or Genetics (4)	3	CIV ENG 2200 or MECH ENG 2350 or CHEM 2210 or BIO SCI 2213 or BIO SCI 2223	Engineering Mechanics-Statics (3) or Engineering Mechanics-Dynamics (2) or Organic Chemistry I (3) or Cell Biology (3) or General Genetics (3) <small>Satisfies a required engineering/science elective.</small>	3
MAT 306	Linear Algebra	3	MATH 3108	Linear Algebra <small>Will satisfy a required math elective.</small>	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Electives	Maximum Free Electives	3	Electives	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 Computer Engineering degree.

Electrical Engineering Group 2 Major Requirements

<u>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Intro to Engineering Design	3
COM 104	Oral Communication	3	SPMS 1185	Principles of Speech	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 230 or HIS 140 or HIS 150 or PSC 101	Modern Europe: 1789 to the Present or American History to 1865 or American History since 1865 or American National Government	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 254 or CSC 285 or CSC 184	Object Oriented Programming or Discrete Structures or Intro to Computer Programming	3	CS 1500	Computational Problem Solving	3
EGT 265 and EGT 400	Engineering Statics (3) and Dynamics (3)	3	CIV ENG 2200 and MECH ENG 2350	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (2)	3
BOTH of the courses above or ONE of the courses below.	Both courses above combined or any one of the following courses will satisfy a required engineering science elective.		BOTH of the courses above or ONE of the courses below.	Both courses above combined or any one of the following courses will satisfy a required engineering science elective.	
OR	OR		OR	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	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Electives	Maximum Free Electives	3	Electives	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&T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Intro to Engineering Design	3
PSY 101	General Psychology	3	PSYCH 1101	General Psychology	3
HIS 230 or HIS 140 or HIS 150 or PSC 101	Modern Europe: 1789 to the Present or American History to 1865 or American History since 1865 or American National Government	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
COM 104	Oral Communication	3	SPMS 1185	Principles of Speech	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
EGT 265	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGT 400	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	3	Electives	Maximum Free Electives	0
	Group 2 Major Requirements	27		Group 2 Major Requirements	23
	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 Engineering Management degree.

Environmental Engineering Group 2 Major Requirements

<u>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Intro to Engineering Design	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
HIS 230 or HIS 140 or HIS 150	Modern Europe: 1789 to the Present or American History to 1865 or American History since 1865	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310	Modern Western Civilization or American History to 1877 or American History since 1877	3
ESC 111	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
CHEM 120	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&T degree requirement. Will transfer as general credit.</small>	3
BIO 101	Principles of Biology	4	BIO SCI 1113, 1219*	General Biology (3) and Lab* (1) <small>*BIO SCI 1219 is not an S&T degree requirement, will transfer as general elective credit.</small>	3
EGT 265	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGT 400	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any 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	31		Group 2 Major Requirements	26
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	68		Total Hours*	60

*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&T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Intro to Engineering Design	3
EGT 350	Technical Report Writing	3	ENGLISH 3560	Technical Writing	3
HIS 230 or HIS 140 or HIS 150 or PSC 101	Modern Europe: 1789 to the Present or American History to 1865 or American History since 1865 or American National Government	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 254 or CSC 285 or CSC 184	Object Oriented Programming or Discrete Structures or Intro to Computer Programming	3	CS 1500	Computational Problem Solving	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	2
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any 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	28		Group 2 Major Requirements	26
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	65		Total Hours*	60

*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&T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Intro to Engineering Design	3
HIS 230 or HIS 140 or HIS 150 or PSC 101	Modern Europe: 1789 to the Present or American History to 1865 or American History since 1865 or American National Government	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 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
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		Literature Elective	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any 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	21		Group 2 Major Requirements	21
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	58		Total Hours*	55

*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&T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Intro to Engineering Design	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
HIS 230 or HIS 140 or HIS 150 or PSC 101	Modern Europe: 1789 to the Present or American History to 1865 or American History since 1865 or American National Government	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
EGT 265	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CHEM 120	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&T degree requirement. Will transfer as general credit.</small>	3
CHE 310	Organic Chemistry I	3	CHEM 221	Organic Chemistry I <small>Not specifically required for the degree but will satisfy Out-of-Department Technical Elective Requirement.</small>	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Electives	Maximum Free Electives	3	Electives	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>Missouri Western State University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EGT 205	Computer-Aided Drafting I	3	MECH ENG 1720	Intro to Engineering Design	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 230 or HIS 140 or HIS 150 or PSC 101	Modern Europe: 1789 to the Present or American History to 1865 or American History since 1865 or American National Government	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
EGT 265	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGT 400	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
ESC 111	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any 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	25		Group 2 Major Requirements	23
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	62		Total Hours*	57

*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

Nuclear Engineering Group 2 Major Requirements						
<u>Missouri Western State University</u>			<u>Semester</u>	<u>Missouri S&T</u>		
EGT 205	Computer-Aided Drafting I	3		MECH ENG 1720	Intro to Engineering Design	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
HIS 230 or HIS 140 or HIS 150 or PSC 101	Modern Europe: 1789 to the Present or American History to 1865 or American History since 1865 or American National Government	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
MAT 306	Linear Algebra	3		MATH 3108	Linear Algebra	3
EGT 265	Engineering Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3		Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3		Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Electives	Maximum Free Electives	6		Electives	Maximum Free Electives	6
	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 Nuclear Engineering degree.

Petroleum Engineering Group 2 Major Requirements

Petroleum Engineering Group 2 Major Requirements						
<u>Missouri Western State University</u>			<u>Semester</u>	<u>Missouri S&T</u>		
EGT 205	Computer-Aided Drafting I	3		MECH ENG 1720	Intro to Engineering Design	3
ENG 108 or EGT 350 or ETC 200	College Writing and Research or Technical Report Writing or Intro to Technical Communication	3		ENGLISH 3560 or ENGLISH 1160 or ENGLISH 1600	Technical Writing (preferred) or Writing and Research or Intro to Technical Communications	3
HIS 230 or HIS 140 or HIS 150 or PSC 101	Modern Europe: 1789 to the Present or American History to 1865 or American History since 1865 or American National Government	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
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	2
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3		Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3		Humanities or Social Science	Any 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	25			Group 2 Major Requirements	23
	Group 1 Core Requirements	37			Group 1 Core Requirements	34
	Total Hours	62			Total Hours*	57

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