

Mineral Area College — Missouri S&T General Engineering

Transfer Guide Effective as of Fall 2026

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

Students are not required to complete all courses on this guide before transferring to Missouri S&T.

Group 1 - Core Requirements: All Majors Take All Courses

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

Mineral Area College		Semester	Missouri S&T		
MAT 1650	Analytical Geometry and Calculus I	5	MATH 1214	Calculus I Grade of C or better is required.	4
MAT 2150	Analytical Geometry and Calculus II	5	MATH 1215	Calculus II Grade of C or better is required.	4
MAT 2250	Analytical Geometry and Calculus III	5	MATH 2222	Calculus III Grade of C or better is required.	4
MAT 2330	Differential Equations	3	MATH 3304	Elementary Differential Equations	3
ENG 1330	English Composition I	3	ENGLISH 1120	Exposition and Argumentation	3
Total Hours		21			Total Hours
					18

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
Biomedical Engineering - 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
Semiconductor 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.

Aerospace Engineering Group 2 Major Requirements

<u>Mineral Area College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 1340 or ENG 1440	English Composition or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
PHS 1350	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
PHI 142	Intro to 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
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENG 2330 or ENG 2340 or ENG 2430 or ENG 2440 or HIS 1230* or HIS 1240* or ART 1490 or MUS 1630 or THE 1000 or Literature	English Literature I or English Literature II or American Literature I or American Literature II or American History I* or American History II* or History of Art I or Appreciation of Music or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIS 1130 or HIS 1140* or GEO 1130 or PHI 1400 or POS 1180* or PSY 1130 or BUS 2940 or BUS 2930 or Foreign Language	Western Civilization I or Western Civilization II* or Regional World Geography or Intro to Philosophy or American Political Systems* or General Psychology I or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
		0			0
		29			29
		21			18
		50			47
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Aerospace Engineering degree.</small>					

Architectural Engineering Group 2 Major Requirements

Mineral Area College		Semester	Missouri S&T		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 1340 or ENG 1440	English Composition or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
PHS 1350	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
PHS 2420	Earth Science I MOTR GEOL 100	5	GEOLOGY 1110 (GEO ENG 1150)	Physical and Env Geology MOTR GEOL 100	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 12 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 3 hours.					
ENG 2330 or ENG 2340 or ENG 2430 or ENG 2440 or HIS 1230* or HIS 1240* or MUS 1630 or THE 1000 or Literature	English Literature I or English Literature II or American Literature I or American Literature II or American History I* or American History II* or History of Art I or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. <small>*Satisfies the State of Missouri government requirement.</small>	3	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present or American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. <small>*Satisfies the State of Missouri government requirement.</small>	3
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines, to include HISTORY 1200.					
HIS 1140*	Western Civilization II* <small>*Satisfies the State of Missouri Government requirement.</small>	3	HISTORY 1200*	Modern Western Civilization* <small>*Satisfies the State of Missouri Government requirement.</small>	3
PHI 1400 or POS 1180* or PSY 1130 or BUS 2940 or BUS 2930 or Foreign Language	Intro to Philosophy or American Political Systems* or General Psychology I or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	PHIL 1105 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Self and World: Intro to Philosophy or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3
Humanities, Arts, and Social Sciences Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
		0			0
		28			26
		21			18
Total Hours		49			Total Hours* 44

*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

Biomedical Engineering-Biomanufacturing Group 2 Major Requirements					
Mineral Area College		Semester	Missouri S&T		
ENG 1440	Public Speaking	3	SP&MS 1185	Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
PHS 1350	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
PHS 1390	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not a degree requirement, transfers as general elective credit.</small>	3
BIO 1150	General Biology	5	BIO SCI 1113, 1219	General Biology and Lab <small>Applies to degree as Track Elective.</small>	4
CSC 1100	Programming Logic	3	COMP SCI 1500	Computational Problem Solving	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 9 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 3 hours Behavioral and Social Sciences. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENG 2330 or ENG 2340 or ENG 2430 or ENG 2440 or HIS 1230* or HIS 1240* or ART 1490 or MUS 1630 or THE 1000 or Literature	English Literature I or English Literature II or American Literature I or American Literature II or American History I* or American History II* or History of Art I or Appreciation of Music or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 3 hours.					
HIS 1130 or HIS 1140* or GEO 1130 or POS 1180* or PSY 1130 or BUS 2940 or BUS 2930 or Foreign Language	Western Civilization I or Western Civilization II* or Regional World Geography or American Political Systems* or General Psychology I or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3
<i>No free electives applied to the degree.</i>		0			0
		30			27
		21			18
Total Hours		51			Total Hours* 45
*S&T advisor permission is required to transfer more than 69 credit hours toward the degree.					

Biomedical Engineering-Biomaterials Group 2 Major Requirements

Biomedical Engineering-Biomaterials Group 2 Major Requirements					
Mineral Area College		Semester	Missouri S&T		
ENG 1440	Public Speaking	3	SP&MS 1185	Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
PHS 1350	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
PHS 1390	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not a degree requirement, transfers as general elective credit.</small>	3
BIO 1150	General Biology	5	BIO SCI 1113*, 1219*	General Biology* and Lab* <small>*Applies to degree as Track Elective (Non-engineering).</small>	4
CSC 1100	Programming Logic	3	COMP SCI 1500	Computational Problem Solving	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 9 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 3 hours Behavioral and Social Sciences. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENG 2330 or ENG 2340 or ENG 2430 or ENG 2440 or HIS 1230* or HIS 1240* or ART 1490 or MUS 1630 or THE 1000 or Literature	English Literature I or English Literature II or American Literature I or American Literature II or American History I* or American History II* or History of Art I or Appreciation of Music or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 3 hours.					
HIS 1130 or HIS 1140* or GEO 1130 or POS 1180* or PSY 1130 or BUS 2940 or BUS 2930 or Foreign Language	Western Civilization I or Western Civilization II* or Regional World Geography or American Political Systems* or General Psychology I or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3
<i>No free electives applied to the degree.</i>		0	Maximum Free Electives		0
		30	Group 2 Major Requirements		27
		21	Group 1 Core Requirements		18
Total Hours		51	Total Hours*		45
*S&T advisor permission is required to transfer more than 69 credits toward the S&T Biomedical Engineering degree.					

Ceramic Engineering Group 2 Major Requirements

	Mineral Area College	Semester		Missouri S&T	
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 1340 or ENG 1440	English Composition or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
PHS 1350	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
PHS 1390	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not a degree requirement, transfers as general elective credit.</small>	3
CSC 1100	Programming Logic	3	COMP SCI 1500	Computational Problem Solving	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENG 2330 or ENG 2340 or ENG 2430 or ENG 2440 or HIS 1230* or HIS 1240* or ART 1490 or MUS 1630 or THE 1000 or Literature	English Literature I or English Literature II or American Literature I or American Literature II or American History I* or American History II* or History of Art I or Appreciation of Music or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIS 1130 or HIS 1140* or GEO 1130 or PHI 1400 or POS 1180* or PSY 1130 or BUS 2940 or BUS 2930 or Foreign Language	Western Civilization I or Western Civilization II* or Regional World Geography or Intro to Philosophy or American Political Systems* or General Psychology I or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
		0			0
		34			32
		21			18
		55			50
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Ceramic Engineering degree.</small>					

Chemical Engineering or Chemical Engineering - Biochemical Engineering Emphasis Group 2 Major Requirements

<u>Mineral Area College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 1440	Public Speaking	3	SP&MS 1185	Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
PHS 1350	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
PHS 1390	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis* (2) <small>*CHEM 1510 is not a degree requirement, transfers as general elective credit.</small>	3
CSC 1100	Programming Logic	3	COMP SCI 1500	Computational Problem Solving	3
Humanities, Arts, and Social Sciences General Education Requirements					
From the options listed in each group below, select 12 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.					
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENG 2330 or ENG 2340 or ENG 2430 or ENG 2440 or HIS 1230* or HIS 1240* or ART 1490 or MUS 1630 or THE 1000 or Literature	English Literature I or English Literature II or American Literature I or American Literature II or American History I* or American History II* or History of Art I or Appreciation of Music or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIS 1130 or HIS 1140* or GEO 1130 or PHI 1400 or POS 1180* or PSY 1130 or BUS 2940 or BUS 2930 or Foreign Language	Western Civilization I or Western Civilization II* or Regional World Geography or Intro to Philosophy or American Political Systems* or General Psychology I or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	31		Group 2 Major Requirements	29
	Group 1 Core Requirements	21		Group 1 Core Requirements	18
	Total Hours	52		Total Hours*	47
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Chemical Engineering degree.</small>					

Civil Engineering Group 2 Major Requirements

Mineral Area College		Semester	Missouri S&T		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 1340 or ENG 1440	English Composition or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
PHS 1350	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
PHS 2420	Earth Science I MOTR GEOL 100	5	GEOLOGY 1110 (GEO ENG 1150)	Physical and Env Geology MOTR GEOL 100	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENG 2330 or ENG 2340 or ENG 2430 or ENG 2440 or HIS 1230* or HIS 1240* or ART 1490 or MUS 1630 or THE 1000 or Literature	English Literature I or English Literature II or American Literature I or American Literature II or American History I* or American History II* or History of Art I or Appreciation of Music or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIS 1130 or HIS 1140* or GEO 1130 or PHI 1400 or POS 1180* or PSY 1130 or BUS 2940 or BUS 2930 or Foreign Language	Western Civilization I or Western Civilization II* or Regional World Geography or Intro to Philosophy or American Political Systems* or General Psychology I or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
		0			0
		31			29
		21			18
		52			70
					Total Hours*

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

Computer Engineering Group 2 Major Requirements

	<u>Mineral Area College</u>	<u>Semester</u>	<u>Missouri S&T</u>		
ENG 1440	Public Speaking	3	SPMS 1185	Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
PHS 1350	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
CSC 1100	Programming Logic	3	COMP SCI 1500	Computational Problem Solving	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENG 2330 or ENG 2340 or ENG 2430 or ENG 2440 or HIS 1230* or HIS 1240* or ART 1490 or MUS 1630 or THE 1000 or Literature	English Literature I or English Literature II or American Literature I or American Literature II or American History I* or American History II* or History of Art I or Appreciation of Music or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIS 1130 or HIS 1140* or GEO 1130 or PHI 1400 or POS 1180* or PSY 1130 or BUS 2940 or BUS 2930 or Foreign Language	Western Civilization I or Western Civilization II* or Regional World Geography or Intro to Philosophy or American Political Systems* or General Psychology I or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences Select 3 hours.					
ENG 1340	English Composition	3	ENGLISH 1160	Writing and Research	3
Electives	Maximum Free Electives	3	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	29		Group 2 Major Requirements	29
	Group 1 Core Requirements	21		Group 1 Core Requirements	18
	Total Hours	50		Total Hours*	47
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Computer Engineering degree.</small>					

Electrical Engineering Group 2 Major Requirements

Mineral Area College		Semester	Missouri S&T		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 1440	Public Speaking	3	SPMS 1185	Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
PHS 1350	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
CSC 1100	Programming Logic	3	COMP SCI 1500	Computational Problem Solving	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENG 2330 or ENG 2340 or ENG 2430 or ENG 2440 or HIS 1230* or HIS 1240* or ART 1490 or MUS 1630 or THE 1000 or Literature	English Literature I or English Literature II or American Literature I or American Literature II or American History I* or American History II* or History of Art I or Appreciation of Music or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIS 1130 or HIS 1140* or GEO 1130 or PHI 1400 or POS 1180* or PSY 1130 or BUS 2940 or BUS 2930 or Foreign Language	Western Civilization I or Western Civilization II* or Regional World Geography or Intro to Philosophy or American Political Systems* or General Psychology I or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences Select 3 hours.					
ENG 1340	English Composition	3	ENGLISH 1160	Writing and Research	3
Electives	Maximum Free Electives	6	Electives	Maximum Free Electives	6
	Group 2 Major Requirements	35		Group 2 Major Requirements	35
	Group 1 Core Requirements	21		Group 1 Core Requirements	18
	Total Hours	56		Total Hours*	53
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Electrical Engineering degree.</small>					

Engineering Management Group 2 Major Requirements

Mineral Area College		Semester	Missouri S&T		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 1440	Public Speaking	3	SPMS 1185	Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
PHS 1350	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENG 2330 or ENG 2340 or ENG 2430 or ENG 2440 or HIS 1230* or HIS 1240* or ART 1490 or MUS 1630 or THE 1000 or Literature	English Literature I or English Literature II or American Literature I or American Literature II or American History I* or American History II* or History of Art I or Appreciation of Music or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines to include PSYCH 1101.					
PSY 1130	General Psychology I	3	PSYCH 1101	General Psychology <small>Required</small>	3
HIS 1130 or HIS 1140* or GEO 1130 or PHI 1400 or POS 1180* or BUS 2940 or BUS 2930 or Foreign Language	Western Civilization I or Western Civilization II* or Regional World Geography or Intro to Philosophy or American Political Systems* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or POL SCI 1200* or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or American Government* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3
Humanities, Arts, and Social Sciences Select 3 hours.					
ENG 1340	English Composition	3	ENGLISH 1160	Writing and Research	3
<i>No free electives applied to the degree.</i>		0	Electives		0
		26	Group 2 Major Requirements		26
		21	Group 1 Core Requirements		18
Total Hours		47	Total Hours*		61

*S&T advisor permission is required to transfer more than 61 credits toward the S&T Engineering Management degree.

Environmental Engineering Group 2 Major Requirements

Mineral Area College		Semester	Missouri S&T		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 1340 or ENG 1440	English Composition or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
PHS 2420	Earth Science I MOTR GEOL 100	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Env Geology MOTR GEOL 100	3
PHS 1350	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
PHS 1390	General Chemistry II	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not a degree requirement, transfers as general elective credit.</small>	3
BIO 1150	General Biology	5	BIO SCI 1113, 1219*	General Biology (3) and Lab* (1) <small>*The lab is not a degree requirement, transfers as general elective credit.</small>	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 12 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, or 1310 to satisfy the State of Missouri government requirement and a degree-specific gen ed requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines. At least one course in either the HFA or the BSS (below) section must be selected from HISTORY 1200, 1300, or 1310.					
ENG 2330 or ENG 2340 or ENG 2430 or ENG 2440 or HIS 1230* or HIS 1240* or ART 1490 or MUS 1630 or THE 1000 or Literature	English Literature I or English Literature II or American Literature I or American Literature II or American History I* or American History II* or History of Art I or Appreciation of Music or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.. At least one course in either the HFA (above) or the BSS section must be selected from HISTORY 1200, 1300, or 1310.					
HIS 1140* or PHI 1400 or PSY 1130 or BUS 2940 or BUS 2930 or Foreign Language	Western Civilization II* or Intro to Philosophy or General Psychology I or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1200* or PHILOS 1105 or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Modern Western Civilization* or Self and World: Intro to Philosophy or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement and a degree-specific gen ed requirement.</small>	6
<i>No free electives applied to the degree.</i>		0			0
		35			32
		21			18
Total Hours		56			Total Hours* 50
<small>*S&T advisor permission is required to transfer more than 69 credits toward the S&T Environmental Engineering degree.</small>					

Geological Engineering Group 2 Major Requirements

<u>Mineral Area College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
PHS 1350	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
PHS 2420	Earth Science I MOTR GEOL 100	5	GEOLOGY 1110 (GEO ENG 1150)	Physical and Env Geology MOTR GEOL 100	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENG 2330 or ENG 2340 or ENG 2430 or ENG 2440 or HIS 1230* or HIS 1240* or ART 1490 or MUS 1630 or THE 1000 or Literature	English Literature I or English Literature II or American Literature I or American Literature II or American History I* or American History II* or History of Art I or Appreciation of Music or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. <i>*Satisfies the State of Missouri government requirement.</i>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. <i>*Satisfies the State of Missouri government requirement.</i>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIS 1130 or HIS 1140* or GEO 1130 or PHI 1400 or POS 1180* or PSY 1130 or BUS 2940 or BUS 2930 or Foreign Language	Western Civilization I or Western Civilization II* or Regional World Geography or Intro to Philosophy or American Political Systems* or General Psychology I or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <i>*Satisfies the State of Missouri government requirement.</i>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <i>*Satisfies the State of Missouri government requirement.</i>	6
Humanities, Arts, and Social Sciences Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
<i>No free electives applied to the degree.</i>		0	Maximum Free Electives		0
		28	Group 2 Major Requirements		26
		21	Group 1 Core Requirements		18
Total Hours		49	Total Hours*		64

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

Mechanical Engineering Group 2 Major Requirements

	Mineral Area College	Semester	Missouri S&T		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 1340 or ENG 1440	English Composition or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
PHS 1350	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
Humanities, Arts, and Social Sciences General Education Requirements					
From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.					
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts					
Select 6 hours from at least two specific disciplines.					
ENG 2330 or ENG 2340 or ENG 2430 or ENG 2440 or HIS 1230* or HIS 1240* or ART 1490 or MUS 1630 or THE 1000 or Literature	English Literature I or English Literature II or American Literature I or American Literature II or American History I* or American History II* or History of Art I or Appreciation of Music or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences					
Select 6 hours from at least two specific disciplines.					
HIS 1130 or HIS 1140* or GEO 1130 or PHI 1400 or POS 1180* or PSY 1130 or BUS 2940 or BUS 2930 or Foreign Language	Western Civilization I or Western Civilization II* or Regional World Geography or Intro to Philosophy or American Political Systems* or General Psychology I or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences					
Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
		<i>No free electives applied to the degree.</i>			0
		Group 2 Major Requirements			26
		Group 1 Core Requirements			21
		Total Hours			47
				Maximum Free Electives	0
				Group 2 Major Requirements	26
				Group 1 Core Requirements	18
				Total Hours*	44

*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

	Mineral Area College	Semester	Missouri S&T		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 1340 or ENG 1440	English Composition or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CSC 1100	Programming Logic	3	COMP SCI 1500	Computational Problem Solving	3
PHS 1350	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
PHS 1390	General Chemistry II	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not a degree requirement, transfers as general elective credit.</small>	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENG 2330 or ENG 2340 or ENG 2430 or ENG 2440 or HIS 1230* or HIS 1240* or ART 1490 or MUS 1630 or THE 1000 or Literature	English Literature I or English Literature II or American Literature I or American Literature II or American History I* or American History II* or History of Art I or Appreciation of Music or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIS 1130 or HIS 1140* or GEO 1130 or PHI 1400 or POS 1180* or PSY 1130 or BUS 2940 or BUS 2930 or Foreign Language	Western Civilization I or Western Civilization II* or Regional World Geography or Intro to Philosophy or American Political Systems* or General Psychology I or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
	<i>No free electives applied to the degree.</i>	3		Maximum Free Electives	0
		36		Group 2 Major Requirements	32
		21		Group 1 Core Requirements	18
	Total Hours	57		Total Hours*	68
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Metallurgical Engineering degree.</small>					

Mining Engineering Group 2 Major Requirements

Mineral Area College		Semester	Missouri S&T		
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 1340 or ENG 1440	English Composition or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
PHS 1350	General Chemistry I	5	CHEM 1310, 1319 GEOLOGY 1110 (GEO ENG 1150)	General Chemistry I and Lab	5
PHS 2420	Earth Science I MOTR GEOL 100	5		Physical and Env Geology MOTR GEOL 100	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 12 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENG 2330 or ENG 2340 or ENG 2430 or ENG 2440 or HIS 1230* or HIS 1240* or ART 1490 or MUS 1630 or THE 1000 or Literature	English Literature I or English Literature II or American Literature I or American Literature II or American History I* or American History II* or History of Art I or Appreciation of Music or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIS 1130 or HIS 1140* or GEO 1130 or PHI 1400 or POS 1180* or PSY 1130 or BUS 2940 or BUS 2930 or Foreign Language	Western Civilization I or Western Civilization II* or Regional World Geography or Intro to Philosophy or American Political Systems* or General Psychology I or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6
<i>No free electives applied to the degree.</i>		0	Maximum Free Electives		0
		28	Group 2 Major Requirements		26
		21	Group 1 Core Requirements		18
Total Hours		49			Total Hours* 44
*S&T advisor permission is required to transfer more than 68 credits toward the S&T Mining Engineering degree.					

Nuclear Engineering Group 2 Major Requirements

	<u>Mineral Area College</u>	<u>Semester</u>	<u>Missouri S&T</u>																										
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3																								
ENG 1340 or ENG 1440	English Composition or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3																								
PHS 1350	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5																								
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.																													
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.																													
ENG 2330 or ENG 2340 or ENG 2430 or ENG 2440 or HIS 1230* or HIS 1240* or ART 1490 or MUS 1630 or THE 1000 or Literature	English Literature I or English Literature II or American Literature I or American Literature II or American History I* or American History II* or History of Art I or Appreciation of Music or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. <small>*Satisfies the State of Missouri government requirement.</small>	6																								
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines to include either ECON 1100 or 1200.																													
BUS 2940 or BUS 2930	Principles of Microeconomics or Principles of Macroeconomics	3	ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3																								
HIS 1130 or HIS 1140* or GEO 1130 or PHI 1400 or POS 1180* or PSY 1130 or Foreign Language	Western Civilization I or Western Civilization II* or Regional World Geography or Intro to Philosophy or American Political Systems* or General Psychology I or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or POL SCI 1200* or PSYCH 1101 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or American Government* or General Psychology or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3																								
Humanities, Arts, and Social Sciences Select 3 hours.																													
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3																								
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	Maximum Free Electives	0		0																									
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	Group 1 Core Requirements	21		18																									
	Total Hours	47		Total Hours*																									
				44																									
*S&T advisor permission is required to transfer more than 69 credits toward the S&T Nuclear Engineering degree.																													

Petroleum Engineering Group 2 Major Requirements

Mineral Area College		Semester	Missouri S&T		
ENG 1340 or ENG 1440	English Composition or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
PHS 1350	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
CSC 1100	Programming Logic	3	COMP SCI 1500	Computational Problem Solving	3
PHS 2420	Earth Science I MOTR GEOL 100	5	GEOLOGY 1110 (GEO ENG 1150)	Physical and Env Geology MOTR GEOL 100	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENG 2330 or ENG 2340 or ENG 2430 or ENG 2440 or HIS 1230* or HIS 1240* or ART 1490 or MUS 1630 or THE 1000 or Literature	English Literature I or English Literature II or American Literature I or American Literature II or American History I* or American History II* or History of Art I or Appreciation of Music or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIS 1130 or HIS 1140* or GEO 1130 or PHI 1400 or POS 1180* or PSY 1130 or BUS 2940 or BUS 2930 or Foreign Language	Western Civilization I or Western Civilization II* or Regional World Geography or Intro to Philosophy or American Political Systems* or General Psychology I or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
<i>No free electives applied to the degree.</i>		0	Maximum Free Electives		0
		31	Group 2 Major Requirements		29
		21	Group 1 Core Requirements		18
Total Hours		52			Total Hours* 47

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

Semiconductor Engineering-Device Engineering Emphasis Group 2 Major Requirements

	<u>Mineral Area College</u>	<u>Semester</u>		<u>Missouri S&T</u>																									
TEC 1300 and TEC 2050	Computer Aided Design and Drafting and Engineering Design & Development	3	MECH ENG 1720	Intro to Engineering Design	3																								
ENG 1340 or ENG 1440	English Composition or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3																								
PHS 1350	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5																								
PHS 1390	General Chemistry II	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not a degree requirement, transfers as general elective credit.</small>	3																								
CSC 1100	Programming Logic	3	COMP SCI 1500	Computational Problem Solving	3																								
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.																													
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.																													
ENG 2330 or ENG 2340 or ENG 2430 or ENG 2440 or HIS 1230* or HIS 1240* or ART 1490 or MUS 1630 or THE 1000 or Literature	English Literature I or English Literature II or American Literature I or American Literature II or American History I* or American History II* or History of Art I or Appreciation of Music or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present or American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. <small>*Satisfies the State of Missouri government requirement.</small>	6																								
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HIS 1130 or HIS 1140* or GEO 1130 or PHI 1400 or POS 1180* or PSY 1130 or BUS 2940 or BUS 2930 or Foreign Language	Western Civilization I or Western Civilization II* or Regional World Geography or Intro to Philosophy or American Political Systems* or General Psychology I or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6																								
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*S&T advisor permission is required to transfer more than 68 credits toward the S&T Ceramic Engineering degree.																													

Semiconductor Engineering-Process Engineering Emphasis Group 2 Major Requirements

	<u>Mineral Area College</u>	<u>Semester</u>		<u>Missouri S&T</u>																									
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PHS 1390	General Chemistry II	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not a degree requirement, transfers as general elective credit.</small>	3																								
CSC 1100	Programming Logic	3	COMP SCI 1500	Computational Problem Solving	3																								
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