

## Jefferson 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.

<u>Jefferson College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>	
MTH 180	Calculus I	5	MATH 1214	Calculus I Grade of C or better is required. 4
MTH 185	Calculus II	5	MATH 1215	Calculus II Grade of C or better is required. 4
MTH 201	Calculus III	5	MATH 2222	Calculus III Grade of C or better is required. 4
MTH 205	Differential Equations	3	MATH 3304	Elementary Differential Equations 3
PHY 223	General Physics I	4	PHYSICS 1135	Engineering Physics I Grade of C or better is required. 4
PHY 224	General Physics II	4	PHYSICS 2135	Engineering Physics II Grade of C or better is required. 4
EGR 100	Exploring the Field of Engineering	1	FR ENG 1100	Study and Careers in Engineering and Computing 1
ENG 101	English Composition I	3	ENGLISH 1120	Exposition and Argumentation 3
Total Hours		30	Total Hours	
			27	

### 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>Jefferson College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGR 101	Computer Aided Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 102 or COM 110	English Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
CHM 111	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
CIS 155	Intro to Computer Programming	3	COMP SCI 1971, 1981	Intro to Programming Method and Lab (C++)	3
EGR 261	Circuit Analysis I	3	ELEC ENG 2800	Electrical Circuits	3
EGR 228	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 250	Engineering Mechanics - Dynamics	3	AERO ENG 2360	Dynamics	3
MTH 172	Linear Algebra	3	MATH 3108	Linear Algebra	3
PHL 202	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
<b>Humanities, Arts, and Social Sciences General Education Requirements</b>					
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.					
<b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>					
<b>Humanities and Fine Arts</b>					
Select 6 hours from at least two specific disciplines.					
ENG 225 or ENG 226 or ENG 228 or ENG 229 or ENG 215 or HST 103* or HST 104* or ART 101 or MUS 121 or THT 100 or Literature	English Literature before 1800 or English Literature after 1800 or American Literature before 1865 or American Literature after 1865 or World Literature before 1650 or <b>US History I to Reconstruction*</b> or <b>US History II from Reconstruction*</b> or Art Appreciation or Appreciation of Music or Theatre Appreciation 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 ENGLISH 1231 or <b>HISTORY 1300*</b> or <b>HISTORY 1310*</b> 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 World Literature I: Beginnings to the Renaissance or <b>American History to 1877*</b> or <b>American History Since 1877*</b> or Art Appreciation 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>	6
<b>Behavioral and Social Sciences</b>					
Select 6 hours from at least two specific disciplines.					
HST 201 or HST 202* or GEO 103 or PHL 102 or PHL 101 or PSC 102* or PSY 101 or ECO 102 or ECO 101 or Foreign Language	Ancient and Medieval Civilization or <b>Renaissance to Early Modern Europe*</b> MOTR WCIV 102 OF World Regional Geography or Intro to Philosophy or Logic or <b>US and Missouri Government and Constitution*</b> or General Psychology or Microeconomics or Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or <b>HISTORY 1200*</b> or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or <b>POL SCI 1200*</b> or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or <b>Modern Western Civilization*</b> MOTR WCIV 102 OF World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or <b>American Government*</b> 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
<b>Humanities, Arts, and Social Sciences</b>					
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
		44			44
		30			27
		74			71

\*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

Jefferson College		Semester	Missouri S&T		
EGR 101	Computer Aided Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 102 or COM 110	English Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
CHM 111	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
EGR 228	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 250	Engineering Mechanics - Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
PHY 105	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
<b>Humanities, Arts, and Social Sciences General Education Requirements</b> 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. <b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>					
<b>Humanities and Fine Arts</b> Select 6 hours from at least two specific disciplines to include ART 3203.					
ENG 225 or ENG 226 or ENG 228 or ENG 229 or ENG 215 or HST 103* or HST 104* or MUS 121 or THT 100 or Literature	English Literature before 1800 or English Literature after 1800 or American Literature before 1865 or American Literature after 1865 or World Literature before 1650 or <b>US History I to Reconstruction*</b> or <b>US History II from Reconstruction*</b> or Appreciation of Music or Theatre Appreciation 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 ENGLISH 1231 or <b>HISTORY 1300*</b> or <b>HISTORY 1310*</b> 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 World Literature I: Beginnings to the Renaissance or <b>American History to 1877*</b> or <b>American History Since 1877*</b> 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
<b>Behavioral and Social Sciences</b> Select 6 hours from at least two specific disciplines, to include HISTORY 1200.					
HST 202*	<b>Renaissance to Early Modern Europe*</b> MOTR WCIV 102 <small>*Satisfies the State of Missouri Government requirement.</small>	3	<b>HISTORY 1200*</b>	<b>Modern Western Civilization*</b> MOTR WCIV 102 <small>*Satisfies the State of Missouri Government requirement.</small>	3
PHL 102 or PHL 101 or PSC 102* or PSY 101 or ECO 102 or ECO 101 or Foreign Language	Intro to Philosophy or Logic or <b>US and Missouri Government and Constitution*</b> or General Psychology or Microeconomics or Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	PHILOS 1105 or PHILOS 1115 or <b>POL SCI 1200*</b> or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or <b>American Government*</b> 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
<b>Humanities, Arts, and Social Sciences</b> 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
		33			31
		30			27
		63			58
		Total Hours			Total Hours*

\*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

Jefferson College		Semester	Missouri S&T		
COM 110	Public Speaking	3	SP&MS 1185	Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 112	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
CHM 200	Organic Chemistry I	5	CHEM 2210, 2219	Organic Chemistry I and Lab	4
CHM 201 or BIO 101 or BIO 201	Organic Chemistry II (5) or General Biology (5) or Genetics (4)	4	CHEM 2220, 2229 or BIO SCI 1113, 1219 or BIO SCI 2223	Organic Chemistry II and Lab or General Biology and Lab or General Genetics <small>Applies to degree as Track Elective.</small>	4
CIS 155	Intro to Computer Programming	3	COMP SCI 1971,1981*	Intro to Programming Methodology and Lab*( C++) <small>*Will be substituted for COMP SCI 1500.</small>	3
<b>Humanities, Arts, and Social Sciences General Education Requirements</b> 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.  <b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>					
<b>Humanities and Fine Arts</b> Select 6 hours from at least two specific disciplines.					
ENG 225 or ENG 226 or ENG 228 or ENG 229 or ENG 215 or HST 103* or HST 104* or ART 101 or MUS 121 or THT 100 or Literature	English Literature before 1800 or English Literature after 1800 or American Literature before 1865 or American Literature after 1865 or World Literature before 1650 or US History I to Reconstruction* or US History II from Reconstruction* or Art Appreciation or Appreciation of Music or Theatre Appreciation 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 ENGLISH 1231 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 World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation 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>	6
<b>Behavioral and Social Sciences</b> Select 3 hours.					
HST 201 or HST 202* or GEO 103 or PSC 102* or PSY 101 or ECO 102 or ECO 101 or Foreign Language	Ancient and Medieval Civilization or Renaissance to Early Modern Europe* MOTR WCIV 102 or World Regional Geography or US and Missouri Government and Constitution* or General Psychology or Microeconomics or 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* MOTR WCIV 102 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
		34			31
		30			27
Total Hours		64			Total Hours* 58
<small>*S&amp;T advisor permission is required to transfer more than 69 credit hours toward the degree.</small>					

## Biomedical Engineering-Biomaterials Group 2 Major Requirements

Biomedical Engineering-Biomaterials Group 2 Major Requirements					
	<u>Jefferson College</u>	<u>Semester</u>	<u>Missouri S&amp;T</u>		
COM 110	Public Speaking	3	SP&MS 1185	Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 112	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
CHM 200	Organic Chemistry I	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
CHM 201	Organic Chemistry II	5	CHEM 2220, 2229*	Organic Chemistry II and Lab* <small>CHEM 2229 Lab applies to the degree as a Track Elective (non-engineering).</small>	4
BIO 11	General Biology	5	BIO SCI 1113*, 1219*	General Biology* and Lab* <small>*Applies to degree as Track Elective (Non-engineering).</small>	4
CIS 155	Intro to Computer Programming	3	COMP SCI 1971, 1981*	Intro to Programming Methodology and Lab*( C++) <small>*Will be substituted for COMP SCI 1500.</small>	3
EGR 228	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 261	Circuit Analysis I	3	ELEC ENG 2100*, 2101	Circuits I* (3) and Circuit Analysis Lab (1) <small>*A passing grade on the Missouri S&amp;T ELEC ENG 2100 final exam is required to receive credit for ELEC ENG 2100. Applies to the degree as a Track Elective (Engineering).</small>	4
<b>Humanities, Arts, and Social Sciences General Education Requirements</b> 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. <b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>					
<b>Humanities and Fine Arts</b> Select 6 hours from at least two specific disciplines.					
ENG 225 or ENG 226 or ENG 228 or ENG 229 or ENG 215 or HST 103* or HST 104* or ART 101 or MUS 121 or THT 100 or Literature	English Literature before 1800 or English Literature after 1800 or American Literature before 1865 or American Literature after 1865 or World Literature before 1650 or <b>US History I to Reconstruction*</b> or <b>US History II from Reconstruction*</b> or Art Appreciation or Appreciation of Music or Theatre Appreciation 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 ENGLISH 1231 or <b>HISTORY 1300*</b> or <b>HISTORY 1310*</b> 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 World Literature I: Beginnings to the Renaissance or <b>American History to 1877*</b> or <b>American History Since 1877*</b> or Art Appreciation 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>	6
<b>Behavioral and Social Sciences</b> Select 3 hours.					
HST 201 or HST 202* or GEO 103 or PSC 102* or PSY 101 or ECO 102 or ECO 101 or Foreign Language	Ancient and Medieval Civilization or <b>Renaissance to Early Modern Europe*</b> MOTR WCIV 102 or World Regional Geography or <b>US and Missouri Government and Constitution*</b> or General Psychology or Microeconomics or Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	HISTORY 1100 or <b>HISTORY 1200*</b> or HISTORY 2110 or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or <b>Modern Western Civilization*</b> MOTR WCIV 102 or World Regional Geography or <b>American Government*</b> 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
		46		Group 2 Major Requirements	42
		30		Group 1 Core Requirements	27
	Total Hours	76			Total Hours* 69
<small>*S&amp;T advisor permission is required to transfer more than 69 credits toward the S&amp;T Biomedical Engineering degree.</small>					

## Ceramic Engineering Group 2 Major Requirements

Jefferson College		Semester	Missouri S&T		
EGR 101	Computer Aided Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 102 or COM 110	English Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
EGR 228	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CHM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 112	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
CIS 155	Intro to Computer Programming	3	COMP SCI 1971,1981*	Intro to Programming Methodology and Lab*( C++) <small>*Will be substituted for COMP SCI 1500.</small>	3
<b>Humanities, Arts, and Social Sciences General Education Requirements</b> 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. <b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>					
<b>Humanities and Fine Arts</b> Select 6 hours from at least two specific disciplines.					
ENG 225 or ENG 226 or ENG 228 or ENG 229 or ENG 215 or HST 103* or HST 104* or ART 101 or MUS 121 or THT 100 or Literature	English Literature before 1800 or English Literature after 1800 or American Literature before 1865 or American Literature after 1865 or World Literature before 1650 or <b>US History I to Reconstruction*</b> or <b>US History II from Reconstruction*</b> or Art Appreciation or Appreciation of Music or Theatre Appreciation 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 ENGLISH 1231 or <b>HISTORY 1300*</b> or <b>HISTORY 1310*</b> 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 World Literature I: Beginnings to the Renaissance or <b>American History to 1877*</b> or <b>American History Since 1877*</b> or Art Appreciation 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>	6
<b>Behavioral and Social Sciences</b> Select 6 hours from at least two specific disciplines.					
HST 201 or HST 202* or GEO 103 or PHL 102 or PHL 101 or PSC 102* or PSY 101 or ECO 102 or ECO 101 or Foreign Language	Ancient and Medieval Civilization or <b>Renaissance to Early Modern Europe*</b> MOTR WCIV 102 or World Regional Geography or Intro to Philosophy or Logic or <b>US and Missouri Government and Constitution*</b> or General Psychology or Microeconomics or Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or <b>HISTORY 1200*</b> or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or <b>POL SCI 1200*</b> or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or <b>Modern Western Civilization*</b> MOTR WCIV 102 or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or <b>American Government*</b> 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
<b>Humanities, Arts, and Social Sciences</b> 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
		37			35
		30			27
Total Hours		67			62

\*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

<b>Jefferson College</b>		<b>Semester</b>	<b>Missouri S&amp;T</b>		
EGR 101	Computer Aided Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
COM 110	Public Speaking	3	SP&MS 1185	Principles of Speech	3
CHM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 200	Organic Chemistry I	5	CHEM 2210, 2219*	Organic Chemistry I and Lab*	4
CHM 201	Organic Chemistry II	5	CHEM 2220, 2229*	Organic Chemistry II (3) and Lab(1)	3
CIS 155	Intro to Computer Programming	3	COMP SCI 1971,1981*	Intro to Programming Methodology and Lab*( C++)	3
<b>Humanities, Arts, and Social Sciences General Education Requirements</b>					
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.					
<b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>					
<b>Humanities and Fine Arts</b>					
Select 6 hours from at least two specific disciplines.					
ENG 225 or ENG 226 or ENG 228 or ENG 229 or ENG 215 or HST 103* or HST 104* or ART 101 or MUS 121 or THT 100 or Literature	English Literature before 1800 or English Literature after 1800 or American Literature before 1865 or American Literature after 1865 or World Literature before 1650 or <b>US History I to Reconstruction*</b> or <b>US History II from Reconstruction*</b> or Art Appreciation or Appreciation of Music or Theatre Appreciation 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 ENGLISH 1231 or <b>HISTORY 1300*</b> or <b>HISTORY 1310*</b> 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 World Literature I: Beginnings to the Renaissance or <b>American History to 1877*</b> or <b>American History Since 1877*</b> or Art Appreciation or Music 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
<b>Behavioral and Social Sciences</b>					
Select 6 hours from at least two specific disciplines.					
HST 201 or HST 202* or GEO 103 or PHL 102 or PHL 101 or PSC 102* or PSY 101 or ECO 102 or ECO 101 or Foreign Language	Ancient and Medieval Civilization or <b>Renaissance to Early Modern Europe*</b> MOTR WCIV 102 or World Regional Geography or Intro to Philosophy or Logic or <b>US and Missouri Government and Constitution*</b> or General Psychology or Microeconomics or Macroeconomics or Elementary or Intermediate Foreign Language <i>*Satisfies the State of Missouri government requirement.</i>	6	HISTORY 1100 or <b>HISTORY 1200*</b> or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or <b>POL SCI 1200*</b> or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or <b>Modern Western Civilization*</b> MOTR WCIV 102 or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or <b>American Government*</b> 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
<i>No free electives applied to the degree.</i>		0	Maximum Free Electives		0
		36	Group 2 Major Requirements		33
		30	Group 1 Core Requirements		27
Total Hours		66	Total Hours*		60

\*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

Jefferson College		Semester	Missouri S&T		
EGR 101	Computer Aided Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 102 or COM 110	English Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
CHM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
PHY 105	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
EGR 228	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 250	Engineering Mechanics - Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
<b>Humanities, Arts, and Social Sciences General Education Requirements</b> 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. <b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>					
<b>Humanities and Fine Arts</b> Select 6 hours from at least two specific disciplines.					
ENG 225 or ENG 226 or ENG 228 or ENG 229 or ENG 215 or HST 103* or HST 104* or ART 101 or MUS 121 or THT 100 or Literature	English Literature before 1800 or English Literature after 1800 or American Literature before 1865 or American Literature after 1865 or World Literature before 1650 or <b>US History I to Reconstruction*</b> or <b>US History II from Reconstruction*</b> or Art Appreciation or Appreciation of Music or Theatre Appreciation 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 ENGLISH 1231 or <b>HISTORY 1300*</b> or <b>HISTORY 1310*</b> 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 World Literature I: Beginnings to the Renaissance or <b>American History to 1877*</b> or <b>American History Since 1877*</b> or Art Appreciation 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>	6
<b>Behavioral and Social Sciences</b> Select 6 hours from at least two specific disciplines.					
HST 201 or HST 202* or GEO 103 or PHL 102 or PHL 101 or PSC 102* or PSY 101 or ECO 102 or ECO 101 or Foreign Language	Ancient and Medieval Civilization or <b>Renaissance to Early Modern Europe*</b> MOTR WCIV 102 or World Regional Geography or Intro to Philosophy or Logic or <b>US and Missouri Government and Constitution*</b> or General Psychology or Microeconomics or Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or <b>HISTORY 1200*</b> or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or <b>POL SCI 1200*</b> or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or <b>Modern Western Civilization*</b> MOTR WCIV 102 or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or <b>American Government*</b> 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
<b>Humanities, Arts, and Social Sciences</b> 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	Maximum Free Electives		0
		36	Group 2 Major Requirements		34
		30	Group 1 Core Requirements		27
Total Hours		66	Total Hours*		70

\*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

Jefferson College		Semester	Missouri S&T		
COM 110	Public Speaking	3	SPMS 1185	Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CIS 155	Intro to Computer Programming	3	COMP SCI 1500	Computational Problem Solving	3
EGR 228 and EGR 250 or BIO 201 or CHM 200	Engineering Mechanics - Statics (3) or Engineering Mechanics - Dynamics (3) or Genetics (3) or Organic Chemistry I (5)	3	CIV ENG 2200 or MECH ENG 2350 or BIO SCI 2223 or CHEM 2210, 2219*	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (3) or General Genetics (3) or Organic Chemistry I (3) and Lab* (1) <small>Satisfies a required engineering/science elective. *CHEM 2219 is not an S&amp;T degree requirement, will transfer as general credit.</small>	3
EGR 261	Circuit Analysis I	3	ELEC ENG 2100*	Circuits I* <small>*A passing grade on the Missouri S&amp;T EE Advancement Exam I is required to receive credit for EE 2100.</small>	3
MTH 172	Linear Algebra	3	MATH 3108	Linear Algebra	3
<b>Humanities, Arts, and Social Sciences General Education Requirements</b> 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. <b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>					
<b>Humanities and Fine Arts</b> Select 6 hours from at least two specific disciplines.					
ENG 225 or ENG 226 or ENG 228 or ENG 229 or ENG 215 or HST 103* or HST 104* or ART 101 or MUS 121 or THT 100 or Literature	English Literature before 1800 or English Literature after 1800 or American Literature before 1865 or American Literature after 1865 or World Literature before 1650 or <b>US History I to Reconstruction*</b> or <b>US History II from Reconstruction*</b> or Art Appreciation or Appreciation of Music or Theatre Appreciation 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 ENGLISH 1231 or <b>HISTORY 1300*</b> or <b>HISTORY 1310*</b> 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 World Literature I: Beginnings to the Renaissance or <b>American History to 1877*</b> or <b>American History Since 1877*</b> or Art Appreciation 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>	6
<b>Behavioral and Social Sciences</b> Select 6 hours from at least two specific disciplines.					
HST 201 or HST 202* or GEO 103 or PHL 102 or PHL 101 or PSC 102* or PSY 101 or ECO 102 or ECO 101 or Foreign Language	Ancient and Medieval Civilization or <b>Renaissance to Early Modern Europe*</b> MOTR WCIV 102 OR World Regional Geography or Intro to Philosophy or Logic or <b>US and Missouri Government and Constitution*</b> or General Psychology or Microeconomics or Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or <b>HISTORY 1200*</b> or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or <b>POL SCI 1200*</b> or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or <b>Modern Western Civilization*</b> MOTR WCIV 102 OR World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or <b>American Government*</b> 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
<b>Humanities, Arts, and Social Sciences</b> Select 3 hours.					
ENH 102	English Composition II	3	ENGLISH 1160	Writing and Research	3
Electives	Maximum Free Electives	3	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	38		Group 2 Major Requirements	38
	Group 1 Core Requirements	30		Group 1 Core Requirements	27
	Total Hours	68		Total Hours*	65

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

## Electrical Engineering Group 2 Major Requirements

<u>Jefferson College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGR 101	Computer Aided Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
COM 110	Public Speaking	3	SPMS 1185	Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CIS 155	Intro to Computer Programming	3	COMP SCI 1500	Computational Problem Solving	3
EGR 228 and EGR 250 <small>(BOTH of the courses above or ONE course below.)</small>	Engineering Mechanics - Statics (3) and Engineering Mechanics - Dynamics (3) <small>(Both courses above combined or the following courses will satisfy a required engineering science elective.)</small>	3	CIV ENG 2200 and MECH ENG 2350 <small>BOTH of the courses above or ONE of the courses below.</small>	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (2) <small>Both courses above combined or any one of the following courses satisfies a required engineering science elective.</small>	3
OR BIO 201 or CHM 200	OR Genetics (4) or Organic Chemistry I (5)		OR BIO SCI 2223 or CHEM 2210, 2219*	OR General Genetics (3) or Organic Chemistry I (3) and Lab* (1) <small>*CHEM 2219 is not an S&amp;T degree requirement, will transfer as general credit.</small>	
EGR 261	Circuit Analysis I	3	ELEC ENG 2100*	Circuits I*	4
MTH 172	Linear Algebra	3	MATH 3108	Linear Algebra	3
<b>Humanities, Arts, and Social Sciences General Education Requirements</b> 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. <b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>					
<b>Humanities and Fine Arts</b> Select 6 hours from at least two specific disciplines.					
ENG 225 or ENG 226 or ENG 228 or ENG 229 or ENG 215 or HST 103* or HST 104* or ART 101 or MUS 121 or THT 100 or Literature	English Literature before 1800 or English Literature after 1800 or American Literature before 1865 or American Literature after 1865 or World Literature before 1650 or <b>US History I to Reconstruction*</b> or <b>US History II from Reconstruction*</b> or Art Appreciation or Appreciation of Music or Theatre Appreciation 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 ENGLISH 1231 or <b>HISTORY 1300*</b> or <b>HISTORY 1310*</b> 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 World Literature I: Beginnings to the Renaissance or <b>American History to 1877*</b> or <b>American History Since 1877*</b> or Art Appreciation 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>	6
<b>Behavioral and Social Sciences</b> Select 6 hours from at least two specific disciplines.					
HST 201 or HST 202* or GEO 103 or PHL 102 or PHL 101 or PSC 102* or PSY 101 or ECO 102 or ECO 101 or Foreign Language	Ancient and Medieval Civilization or <b>Renaissance to Early Modern Europe*</b> MOTR WCIV 102 or World Regional Geography or Intro to Philosophy or Logic or <b>US and Missouri Government and Constitution*</b> or General Psychology or Microeconomics or Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or <b>HISTORY 1200*</b> or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or <b>POL SCI 1200*</b> or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or <b>Modern Western Civilization*</b> MOTR WCIV 102 or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or <b>American Government*</b> 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
<b>Humanities, Arts, and Social Sciences</b> Select 3 hours.					
ENH 102	English Composition II	3	ENGLISH 1160	Writing and Research	3
Electives	Maximum Free Electives	6	Electives	Maximum Free Electives	6
	Group 2 Major Requirements	44		Group 2 Major Requirements	45
	Group 1 Core Requirements	30		Group 1 Core Requirements	27
	Total Hours	74		Total Hours*	72

\*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>Jefferson College</u>	<u>Semester</u>		<u>Missouri S&amp;T</u>	
EGR 101		Computer Aided Engineering Design	MECH ENG 1720	Intro to Engineering Design
	3			3
COM 110		Public Speaking	SPMS 1185	Principles of Speech
	3			3
CHM 111		General Chemistry I	CHEM 1310, 1319	General Chemistry I and Lab
	5			5
CIS 155		Intro to Computer Programming	COMP SCI 1971, 1981	Intro to Programming Method and Lab (C++)
	3			3
EGR 261		Circuit Analysis I	ELEC ENG 2800	Electrical Circuits
	3			3
EGR 228		Engineering Mechanics - Statics	CIV ENG 2200	Engineering Mechanics-Statics
	3			3
EGR 250		Engineering Mechanics - Dynamics	MECH ENG 2350	Engineering Mechanics-Dynamics
	3			2
<b>Humanities, Arts, and Social Sciences General Education Requirements</b>				
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.				
<b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>				
<b>Humanities and Fine Arts</b>				
Select 6 hours from at least two specific disciplines.				
ENG 225 or ENG 226 or ENG 228 or ENG 229 or ENG 215 or HST 103* or HST 104* or ART 101 or MUS 121 or THT 100 or Literature		English Literature before 1800 or English Literature after 1800 or American Literature before 1865 or American Literature after 1865 or World Literature before 1650 or <b>US History I to Reconstruction*</b> or <b>US History II from Reconstruction*</b> or Art Appreciation or Appreciation of Music or Theatre Appreciation or Any literature with prerequisite of no more than English Composition I. <small>*Satisfies the State of Missouri government requirement.</small>	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or <b>HISTORY 1300*</b> or <b>HISTORY 1310*</b> 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 World Literature I: Beginnings to the Renaissance or <b>American History to 1877*</b> or <b>American History Since 1877*</b> or Art Appreciation 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>
	6			6
<b>Behavioral and Social Sciences</b>				
Select 6 hours from at least two specific disciplines to include PSYCH 1101.				
PSY 101		General Psychology	PSYCH 1101	General Psychology <small>Required</small>
	3			3
HST 201 or HST 202* or GEO 103 or PHL 102 or PHL 101 or PSC 102* or ECO 102 or ECO 101 or Foreign Language		Ancient and Medieval Civilization or <b>Renaissance to Early Modern Europe*</b> MOTR WCIV 102 or World Regional Geography or Intro to Philosophy or Logic or <b>US and Missouri Government and Constitution*</b> or Microeconomics or Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	HISTORY 1100 or <b>HISTORY 1200*</b> or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or <b>POL SCI 1200*</b> or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or <b>Modern Western Civilization*</b> MOTR WCIV 102 or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or <b>American Government*</b> or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>
	3			3
<b>Humanities, Arts, and Social Sciences</b>				
Select 3 hours.				
ENH 102		English Composition II	ENGLISH 1160	Writing and Research
	3			3
<i>No free electives applied to the degree.</i>				
	0		Electives	Maximum Free Electives
	38	Group 2 Major Requirements		Group 2 Major Requirements
	30	Group 1 Core Requirements		Group 1 Core Requirements
	68	Total Hours		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

Jefferson College		Semester	Missouri S&T		
EGR 101	Computer Aided Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 102 or COM 110	English Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
PHY 105	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
CHM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 112	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 101	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
EGR 228	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 250	Engineering Mechanics - Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
<b>Humanities, Arts, and Social Sciences General Education Requirements</b>					
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.					
<b>*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.</b>					
<b>Humanities and Fine Arts</b>					
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 225 or ENG 226 or ENG 228 or ENG 229 or ENG 215 or HST 103* or HST 104* or ART 101 or MUS 121 or THT 100 or Literature	English Literature before 1800 or English Literature after 1800 or American Literature before 1865 or American Literature after 1865 or World Literature before 1650 or <b>US History I to Reconstruction*</b> or <b>US History II from Reconstruction*</b> or Art Appreciation or Appreciation of Music or Theatre Appreciation 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 ENGLISH 1231 or <b>HISTORY 1300*</b> or <b>HISTORY 1310*</b> 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 World Literature I: Beginnings to the Renaissance or <b>American History to 1877*</b> or <b>American History Since 1877*</b> or Art Appreciation 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>	6
<b>Behavioral and Social Sciences</b>					
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.					
HST 2202* or PHL 102 or PHL 101 or PSY 101 or ECO 102 or ECO 101 or Foreign Language	<b>Renaissance to Early Modern Europe*</b> MOTR WCIV 102 OR Intro to Philosophy or Logic or General Psychology or Microeconomics or Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	<b>HISTORY 1200*</b> or PHILOS 1105 or PHILOS 1115 or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	<b>Modern Western Civilization*</b> MOTR WCIV 102 OR Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction 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	Maximum Free Electives		0
		43	Group 2 Major Requirements		37
		30	Group 1 Core Requirements		27
Total Hours		73	Total Hours*		64
<small>*S&amp;T advisor permission is required to transfer more than 69 credits toward the S&amp;T Environmental Engineering degree.</small>					

## Geological Engineering Group 2 Major Requirements

<u>Jefferson College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
EGR 101	Computer Aided Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
CHM 111	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I* and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
PHY 105	Physical Geology	4	GEO ENG 1150 (GEOLOGY 1110)	Physical and Environmental Geology	3
EGR 228	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 250	Engineering Mechanics - Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
<b>Humanities, Arts, and Social Sciences General Education Requirements</b> 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. <b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>					
<b>Humanities and Fine Arts</b> Select 6 hours from at least two specific disciplines.					
ENG 225 or ENG 226 or ENG 228 or ENG 229 or ENG 215 or HST 103* or HST 104* or ART 101 or MUS 121 or THT 100 or Literature	English Literature before 1800 or English Literature after 1800 or American Literature before 1865 or American Literature after 1865 or World Literature before 1650 or <b>US History I to Reconstruction*</b> or <b>US History II from Reconstruction*</b> or Art Appreciation or Appreciation of Music or Theatre Appreciation 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 ENGLISH 1231 or <b>HISTORY 1300*</b> or <b>HISTORY 1310*</b> 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 World Literature I: Beginnings to the Renaissance or <b>American History to 1877*</b> or <b>American History Since 1877*</b> or Art Appreciation 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>	6
<b>Behavioral and Social Sciences</b> Select 6 hours from at least two specific disciplines.					
HST 201 or HST 202* or GEO 103 or PHL 102 or PHL 101 or PSC 102* or PSY 101 or ECO 102 or ECO 101 or Foreign Language	Ancient and Medieval Civilization or <b>Renaissance to Early Modern Europe*</b> MOTR WCIV 102 or World Regional Geography or Intro to Philosophy or Logic or <b>US and Missouri Government and Constitution*</b> or General Psychology or Microeconomics or Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or <b>HISTORY 1200*</b> or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or <b>POL SCI 1200*</b> or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or <b>Modern Western Civilization*</b> MOTR WCIV 102 or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or <b>American Government*</b> 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
<b>Humanities, Arts, and Social Sciences</b> 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	Maximum Free Electives		0
		33	Group 2 Major Requirements		31
		30	Group 1 Core Requirements		27
		63	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

Jefferson College		Semester	Missouri S&T		
EGR 101	Computer Aided Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 102 or COM 110	English Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
CHM 111	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I* and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
CIS 155	Intro to Computer Programming	3	COMP SCI 1971, 1981	Intro to Programming Method and Lab (C++)	3
EGR 261	Circuit Analysis I	3	ELEC ENG 2800	Electrical Circuits	3
EGR 228	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 250	Engineering Mechanics - Dynamics	3	MECH ENG 2360	Dynamics	3
MTH 172	Linear Algebra	3	MATH 3108	Linear Algebra	3
<b>Humanities, Arts, and Social Sciences General Education Requirements</b> 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. <b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>					
<b>Humanities and Fine Arts</b> Select 6 hours from at least two specific disciplines.					
ENG 225 or ENG 226 or ENG 228 or ENG 229 or ENG 215 or HST 103* or HST 104* or ART 101 or MUS 121 or THT 100 or Literature	English Literature before 1800 or English Literature after 1800 or American Literature before 1865 or American Literature after 1865 or World Literature before 1650 or <b>US History I to Reconstruction*</b> or <b>US History II from Reconstruction*</b> or Art Appreciation or Appreciation of Music or Theatre Appreciation 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 ENGLISH 1231 or <b>HISTORY 1300*</b> or <b>HISTORY 1310*</b> 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 World Literature I: Beginnings to the Renaissance or <b>American History to 1877*</b> or <b>American History Since 1877*</b> or Art Appreciation 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>	6
<b>Behavioral and Social Sciences</b> Select 6 hours from at least two specific disciplines.					
HST 201 or HST 202* or GEO 103 or PHL 102 or PHL 101 or PSC 102* or PSY 101 or ECO 102 or ECO 101 or Foreign Language	Ancient and Medieval Civilization or <b>Renaissance to Early Modern Europe*</b> MOTR WCIV 102 or World Regional Geography or Intro to Philosophy or Logic or <b>US and Missouri Government and Constitution*</b> or General Psychology or Microeconomics or Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or <b>HISTORY 1200*</b> or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or <b>POL SCI 1200*</b> or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or <b>Modern Western Civilization*</b> MOTR WCIV 102 or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or <b>American Government*</b> 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
<b>Humanities, Arts, and Social Sciences</b> 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
Group 2 Major Requirements		41	Group 2 Major Requirements		41
Group 1 Core Requirements		30	Group 1 Core Requirements		27
Total Hours		71	Total Hours*		68
<small>*S&amp;T advisor permission is required to transfer more than 68 credits toward the S&amp;T Mechanical Engineering degree.</small>					

## Metallurgical Engineering Group 2 Major Requirements

<b>Jefferson College</b>		<b>Semester</b>	<b>Missouri S&amp;T</b>		
EGR 101	Computer Aided Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 102 or COM 110	English Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
CIS 155	Intro to Computer Programming	3	COMP SCI 1971,1981*	Intro to Programming Methodology and Lab*( C++) <small>*Will be substituted for COMP SCI 1500.</small>	3
EGR 228	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CHM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 112	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
CHM 200 or EGR 261	Organic Chemistry I (5) or Circuit Analysis I (4)	4	CHEM 2210, 2219 or ELEC ENG 2800	Organic Chemistry I (4) or Electrical Circuits (3) or Not specifically required for the degree but satisfies out-of-department technical elective requirement <small>*CHEM 2219 is not a degree requirement. Will transfer as general elective credit.</small>	3
<b>Humanities, Arts, and Social Sciences General Education Requirements</b> 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. <b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>					
<b>Humanities and Fine Arts</b> Select 6 hours from at least two specific disciplines.					
ENG 225 or ENG 226 or ENG 228 or ENG 229 or ENG 215 or HST 103* or HST 104* or ART 101 or MUS 121 or THT 100 or Literature	English Literature before 1800 or English Literature after 1800 or American Literature before 1865 or American Literature after 1865 or World Literature before 1650 or <b>US History I to Reconstruction*</b> or <b>US History II from Reconstruction*</b> or Art Appreciation or Appreciation of Music or Theatre Appreciation 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 ENGLISH 1231 or <b>HISTORY 1300*</b> or <b>HISTORY 1310*</b> 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 World Literature I: Beginnings to the Renaissance or <b>American History to 1877*</b> or <b>American History Since 1877*</b> or Art Appreciation 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>	6
<b>Behavioral and Social Sciences</b> Select 6 hours from at least two specific disciplines.					
HST 201 or HST 202* or GEO 103 or PHL 102 or PHL 101 or PSC 102* or PSY 101 or ECO 102 or ECO 101 or Foreign Language	Ancient and Medieval Civilization or <b>Renaissance to Early Modern Europe*</b> MOTR WCIV 102 OR World Regional Geography or Intro to Philosophy or Logic or <b>US and Missouri Government and Constitution*</b> or General Psychology or Microeconomics or Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or <b>HISTORY 1200*</b> or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or <b>POL SCI 1200*</b> or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or <b>Modern Western Civilization*</b> MOTR WCIV 102 OR World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or <b>American Government*</b> 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
<b>Humanities, Arts, and Social Sciences</b> 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
	Group 2 Major Requirements	44		Group 2 Major Requirements	38
	Group 1 Core Requirements	30		Group 1 Core Requirements	27
	Total Hours	74		Total Hours*	68

\*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

Jefferson College		Semester	Missouri S&T		
EGR 101	Computer Aided Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 102 or COM 110	English Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
CHM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
EGR 228	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 250	Engineering Mechanics - Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
PHY 105	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
<b>Humanities, Arts, and Social Sciences General Education Requirements</b> 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. <b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>					
<b>Humanities and Fine Arts</b> Select 6 hours from at least two specific disciplines.					
ENG 225 or ENG 226 or ENG 228 or ENG 229 or ENG 215 or HST 103* or HST 104* or ART 101 or MUS 121 or THT 100 or Literature	English Literature before 1800 or English Literature after 1800 or American Literature before 1865 or American Literature after 1865 or World Literature before 1650 or <b>US History I to Reconstruction*</b> or <b>US History II from Reconstruction*</b> or Art Appreciation or Appreciation of Music or Theatre Appreciation 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 ENGLISH 1231 or <b>HISTORY 1300*</b> or <b>HISTORY 1310*</b> 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 World Literature I: Beginnings to the Renaissance or <b>American History to 1877*</b> or <b>American History Since 1877*</b> or Art Appreciation or Music 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
<b>Behavioral and Social Sciences</b> Select 6 hours from at least two specific disciplines.					
HST 201 or HST 202* or GEO 103 or PHL 102 or PHL 101 or PSC 102* or PSY 101 or ECO 102 or ECO 101 or Foreign Language	Ancient and Medieval Civilization or <b>Renaissance to Early Modern Europe*</b> MOTR WCIV 102 or World Regional Geography or Intro to Philosophy or Logic or <b>US and Missouri Government and Constitution*</b> or General Psychology or Microeconomics or Macroeconomics or Elementary or Intermediate Foreign Language <i>*Satisfies the State of Missouri government requirement.</i>	6	HISTORY 1100 or <b>HISTORY 1200*</b> or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or <b>POL SCI 1200*</b> or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or <b>Modern Western Civilization*</b> MOTR WCIV 102 or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or <b>American Government*</b> 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
<i>No free electives applied to the degree.</i>		0	Maximum Free Electives		0
Group 2 Major Requirements		33	Group 2 Major Requirements		31
Group 1 Core Requirements		30	Group 1 Core Requirements		27
Total Hours		63	Total Hours*		58

\*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					
	<b>Jefferson College</b>	<b>Semester</b>		<b>Missouri S&amp;T</b>	
EGR 101	Computer Aided Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 102 or COM 110	English Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
CHM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CIS 155	Intro to Computer Programming	3	COMP SCI 1971, 1981	Intro to Programming Method and Lab (C++)	3
MTH 172	Linear Algebra	3	MATH 3108	Linear Algebra	3
EGR 228	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 261	Circuit Analysis I	3	ELEC ENG 2800	Electrical Circuits	3
<b>Humanities, Arts, and Social Sciences General Education Requirements</b>					
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.					
<b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>					
<b>Humanities and Fine Arts</b>					
Select 6 hours from at least two specific disciplines.					
ENG 225 or ENG 226 or ENG 228 or ENG 229 or ENG 215 or HST 103* or HST 104* or ART 101 or MUS 121 or THT 100 or Literature	English Literature before 1800 or English Literature after 1800 or American Literature before 1865 or American Literature after 1865 or World Literature before 1650 or <b>US History I to Reconstruction*</b> or <b>US History II from Reconstruction*</b> or Art Appreciation or Appreciation of Music or Theatre Appreciation or Any literature with prerequisite of no more than English Composition I.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or <b>HISTORY 1300*</b> or <b>HISTORY 1310*</b> 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 World Literature I: Beginnings to the Renaissance or <b>American History to 1877*</b> or <b>American History Since 1877*</b> or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120.	6
*Satisfies the State of Missouri government requirement.					
<b>Behavioral and Social Sciences</b>					
Select 6 hours from at least two specific disciplines to include either ECON 1100 or 1200.					
ECO 102 or ECO 101	Microeconomics or Macroeconomics	3	ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3
HST 201 or HST 202* or GEO 103 or PHL 102 or PHL 101 or PSC 102* or PSY 101 or Foreign Language	Ancient and Medieval Civilization or <b>Renaissance to Early Modern Europe*</b> MOTR WCIV 102 OR World Regional Geography or Intro to Philosophy or Logic or <b>US and Missouri Government and Constitution*</b> or General Psychology or Elementary or Intermediate Foreign Language	3	HISTORY 1100 or <b>HISTORY 1200*</b> or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or <b>POL SCI 1200*</b> or PSYCH 1101 or Foreign Language	Early Western Civilization or <b>Modern Western Civilization*</b> MOTR WCIV 102 OR World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or <b>American Government*</b> or General Psychology or Elementary or Intermediate Foreign Language	3
*Satisfies the State of Missouri government requirement.					
<b>Humanities, Arts, and Social Sciences</b>					
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
Maximum Free Electives					
		0			0
		38			38
		30			27
		68			65
*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

Jefferson College	Semester	Missouri S&T	
ENG 102 or COM 110	3	ENGLISH 1160 or SPMS 1185	3
CHM 111	5	CHEM 1310*, 1319	5
PHY 105	4	GEOLOGY 1110 (GEO ENG 1150)	3
EGR 228	3	CIV ENG 2200	3
EGR 250	3	MECH ENG 2350	2
<b>Humanities, Arts, and Social Sciences General Education Requirements</b> 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. <b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>			
<b>Humanities and Fine Arts</b> Select 6 hours from at least two specific disciplines.			
ENG 225 or ENG 226 or ENG 228 or ENG 229 or ENG 215 or HST 103* or HST 104* or ART 101 or MUS 121 or THT 100 or Literature	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	6
English Literature before 1800 or English Literature after 1800 or American Literature before 1865 or American Literature after 1865 or World Literature before 1650 or <b>US History I to Reconstruction*</b> or <b>US History II from Reconstruction*</b> or Art Appreciation or Appreciation of Music or Theatre Appreciation or Any literature with prerequisite of no more than English Composition I. *Satisfies the State of Missouri government requirement.			
<b>Behavioral and Social Sciences</b> Select 6 hours from at least two specific disciplines.			
HST 201 or HST 202* or GEO 103 or PHL 102 or PHL 101 or PSC 102* or PSY 101 or ECO 102 or ECO 101 or Foreign Language	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	6
Ancient and Medieval Civilization or <b>Renaissance to Early Modern Europe*</b> MOTR WCIV 102 OF World Regional Geography or Intro to Philosophy or Logic or <b>US and Missouri Government and Constitution*</b> or General Psychology or Microeconomics or Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.			
<b>Humanities, Arts, and Social Sciences</b> Select 3 hours.			
HASS Elective	3	HASS Elective	3
Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.			
<i>No free electives applied to the degree.</i>			
	0		0
	33		31
	30		27
	63		58
			Total Hours*

\*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

Jefferson College		Semester	Missouri S&T		
EGR 101	Computer Aided Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 102 or COM 110	English Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
CHM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
EGR 228	Engineering Mechanics - Statics	3	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2)	3
EGR 250	Engineering Mechanics - Dynamics	3	ELEC ENG 2100*, 2101	Circuits I* (3) and Circuit Analysis Lab (1)	4
CIS 155	Intro to Computer Programming	3	COMP SCI 1500	Computational Problem Solving	3
<b>Humanities, Arts, and Social Sciences General Education Requirements</b> 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. <b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>					
<b>Humanities and Fine Arts</b> Select 6 hours from at least two specific disciplines.					
ENG 225 or ENG 226 or ENG 228 or ENG 229 or ENG 215 or HST 103* or HST 104* or ART 101 or MUS 121 or THT 100 or Literature	English Literature before 1800 or English Literature after 1800 or American Literature before 1865 or American Literature after 1865 or World Literature before 1650 or <b>US History I to Reconstruction*</b> or <b>US History II from Reconstruction*</b> or Art Appreciation or Appreciation of Music or Theatre Appreciation 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 ENGLISH 1231 or <b>HISTORY 1300*</b> or <b>HISTORY 1310*</b> 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 World Literature I: Beginnings to the Renaissance or <b>American History to 1877*</b> or <b>American History Since 1877*</b> or Art Appreciation 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>	6
<b>Behavioral and Social Sciences</b> Select 6 hours from at least two specific disciplines.					
HST 201 or HST 202* or GEO 103 or PHL 102 or PHL 101 or PSC 102* or PSY 101 or ECO 102 or ECO 101 or Foreign Language	Ancient and Medieval Civilization or <b>Renaissance to Early Modern Europe*</b> MOTR WCIV 102 OR World Regional Geography or Intro to Philosophy or Logic or <b>US and Missouri Government and Constitution*</b> or General Psychology or Microeconomics or Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or <b>HISTORY 1200*</b> or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or <b>POL SCI 1200*</b> or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or <b>Modern Western Civilization*</b> MOTR WCIV 102 OR World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or <b>American Government*</b> 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
<b>Humanities, Arts, and Social Sciences</b> 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
		3			3
		38			39
		30			27
		68			66
<small>*S&amp;T advisor permission is required to transfer more than 68 credits toward the S&amp;T Ceramic Engineering degree.</small>					

## Semiconductor Engineering-Process Engineering Emphasis Group 2 Major Requirements

Semiconductor Engineering-Process Engineering Emphasis Group 2 Major Requirements			
	<b>Jefferson College</b>	<b>Semester</b>	<b>Missouri S&amp;T</b>
EGR 101	Computer Aided Engineering Design	3	MECH ENG 1720 Intro to Engineering Design 3
ENG 102 or COM 110	English Composition II or Public Speaking	3	ENGLISH 1160 or SPMS 1185 Writing and Research or Principles of Speech 3
CHM 111	General Chemistry I	5	CHEM 1310, 1319 General Chemistry I and Lab 5
CHM 112	General Chemistry II	5	CHEM 1320, 1510* General Chemistry II (3) and Qualitative Analysis (2) 3 <small>*CHEM 1510 is not a degree requirement, transfers as general elective credit.</small>
EGR 261	Circuit Analysis I	3	ELEC ENG 2100*, 2101 Circuits I* (3) and Circuit Analysis Lab (1) 4 <small>*A passing grade on the Missouri S&amp;T ELEC ENG 2100 final exam is required to receive credit for ELEC ENG 2100.</small>
CIS 155	Intro to Computer Programming	3	COMP SCI 1500 Computational Problem Solving 3
<b>Humanities, Arts, and Social Sciences General Education Requirements</b> 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. <b>*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.</b>			
<b>Humanities and Fine Arts</b> Select 6 hours from at least two specific disciplines.			
ENG 225 or ENG 226 or ENG 228 or ENG 229 or ENG 215 or HST 103* or HST 104* or ART 101 or MUS 121 or THT 100 or Literature	English Literature before 1800 or English Literature after 1800 or American Literature before 1865 or American Literature after 1865 or World Literature before 1650 or <b>US History I to Reconstruction*</b> or <b>US History II from Reconstruction*</b> or Art Appreciation or Appreciation of Music or Theatre Appreciation 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 ENGLISH 1231 or <b>HISTORY 1300*</b> or <b>HISTORY 1310*</b> 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 World Literature I: Beginnings to the Renaissance or <b>American History to 1877*</b> or <b>American History Since 1877*</b> or Art Appreciation 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>
<b>Behavioral and Social Sciences</b> Select 6 hours from at least two specific disciplines.			
HST 201 or HST 202* or GEO 103 or PHL 102 or PHL 101 or PSC 102* or PSY 101 or ECO 102 or ECO 101 or Foreign Language	Ancient and Medieval Civilization or <b>Renaissance to Early Modern Europe*</b> MOTR WCIV 102 OR World Regional Geography or Intro to Philosophy or Logic or <b>US and Missouri Government and Constitution*</b> or General Psychology or Microeconomics or Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 1100 or <b>HISTORY 1200*</b> or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or <b>POL SCI 1200*</b> or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language Early Western Civilization or <b>Modern Western Civilization*</b> MOTR WCIV 102 OR World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or <b>American Government*</b> 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>
<b>Humanities, Arts, and Social Sciences</b> 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
<b>Summary of Requirements</b>			
	Maximum Free Electives	3	Maximum Free Electives 3
	Group 2 Major Requirements	40	Group 2 Major Requirements 39
	Group 1 Core Requirements	30	Group 1 Core Requirements 27
	<b>Total Hours</b>	<b>70</b>	<b>Total Hours*</b> 66 <small>*S&amp;T advisor permission is required to transfer more than 68 credits toward the S&amp;T Ceramic Engineering degree.</small>