

## Jefferson College — Missouri S&T

### General Engineering

Transfer Guide Effective as of Fall 2024

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

## Group 1 - Core Requirements: All Majors Take All Courses

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

<u>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
CHM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
ENG 101	English Composition I	3	ENGLISH 1120	Exposition and Argumentation	3
ECO 102 or ECO 101	Microeconomics or Macroeconomics	3	ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3
Total Hours		37	Total Hours		34

## Group 2 - Major Requirements: Take All Courses for Major of Choice

Engineering students take all Group 1 - Core Requirements (above) and Group 2 - Major Requirements for chosen major from list below. See course requirements on following pages.

**Aerospace Engineering**  
**Architectural Engineering**  
**Ceramic Engineering**  
**Chemical Engineering**  
**Chemical Engineering/Biochemistry Emphasis**  
**Civil Engineering**  
**Computer Engineering**  
**Electrical Engineering**

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

Engineering Major Requirements are detailed on the following pages.

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

**Humanities/Social Science (HSS) Electives:** HSS electives may include any art, English and technical communication, etymology, foreign language, music, philosophy, speech and media studies, or theatre. Your campus may have additional acceptable options. Consult with your advisor or email [transfer@mst.edu](mailto:transfer@mst.edu) with questions. See Missouri S&T online catalog at <https://catalog.mst.edu/undergraduate/degreeprogramsandcourses/> for more information.

## Aerospace Engineering Group 2 Major Requirements

Jefferson College		Semester	Missouri S&T		
EGR 101	Computer Aided Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
HST 202 or HST 103 or HST 104 or PSC 102	Renaissance to Early Mod Europe MOTR WCIV 102 or US History I to Reconstruction or US History II from Reconstruction or US and Missouri Govt. and Constitution	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization MOTR WCIV 102 or American History to 1877 or American History Since 1877 or American Government	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	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
EGR 261	Circuit Analysis I	3	EE 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
MTT 148	Intro to Metallurgy	3	MET ENG 2110	Metallurgy for Engineers	3
MTH 172	Linear Algebra	3	MATH 3108	Linear Algebra I <small>Will satisfy the Advanced Math/Comp Sci elective requirement.</small>	3
ENG 130 or ENG 175 or ENG 215	English Life and Literature I or American Literature I or World Literature before 1650 or other literature	3	ENGLISH 1211 or ENGLISH 1221 or ENGLISH 1231	British Literature I: The Beginnings to 1800 or American Literature: 1600 to 1865 or World Literature I or other literature	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
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	33		Group 2 Major Requirements	33
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	70		Total Hours*	67

\*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
HST 202* (or HST 103 or HST 104)	Renaissance to Early Mod Europe MOTR WCIV 102* (or US History I to Reconstruction or US History II from Reconstruction) <small>*HST 202 is preferred; HST 103 or 104 will also be accepted.</small>	3	HISTORY 1200* (or HISTORY 1300 or HISTORY 1310)	Modern Western Civilization MOTR WCIV 102* (or American History to 1877 or American History since 1877) <small>*HISTORY 1200 is preferred; 1300 or 1310 will also be accepted.</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
PHY 105	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
Humanities or Social Science or Communication	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language or one communication course from this list: ENG 102 or COM 110.	3	Humanities or Social Science or Communication	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language or one communication course from this list: ENGLISH 1160 or SPMS 1185.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	19		Group 2 Major Requirements	17
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	56		Total Hours*	51

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

## Biomedical Engineering-Biomanufacturing Group 2 Major Requirements

<u>Jefferson College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
COM 110	Public Speaking	3	SP&MS 1185	Principles of Speech	3
HST 202 or HST 103 or HST 104 or PSC 102	Renaissance to Early Mod Europe MOTR WCIV 102 or US History I to Reconstruction or US History II from Reconstruction or US and Missouri Govt. and Constitution	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization MOTR WCIV 102 or American History to 1877 or American History Since 1877 or American Government	3
CHM 112	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Lab (2) <small>*CHEM 1510 is not an S&amp;T degree requirement. Will transfer as general 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	CS 1500	Computational Problem Solving	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	23		Group 2 Major Requirements	23
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	60		Total Hours*	57

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

## 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	3
HST 202 or HST 103 or HST 104 or PSC 102	Renaissance to Early Mod Europe MOTR WCIV 102 or US History I to Reconstruction or US History II from Reconstruction or US and Missouri Govt. and Constitution	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization MOTR WCIV 102 or American History to 1877 or American History Since 1877 or American Government	3
CHM 112	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Lab (2) <small>*CHEM 1510 is not an S&amp;T degree requirement. Will transfer as general 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 I 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 General Biology* and Lab* <small>*Applies to degree as Track Elective (Non-engineering).</small>	4
CIS 155	Intro to Computer Programming	3	CS 1500	Computational Problem Solving	3
EGR 228	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 261	Circuit Analysis I	3	EE 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. Applies to the degree as a Track Elective (Engineering).</small>	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	35		Group 2 Major Requirements	30
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	72		Total Hours*	64

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

## Ceramic Engineering Group 2 Major Requirements

<u>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
HST 202 or HST 103 or HST 104 or PSC 102	Renaissance to Early Mod Europe MOTR WCIV 102 or US History I to Reconstruction or US History II from Reconstruction or US and Missouri Govt. and Constitution	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization MOTR WCIV 102 or American History to 1877 or American History Since 1877 or American Government	3
EGR 228	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CHM 200	Organic Chemistry I	5	CHEM 2210/2219*	Organic Chemistry I (3) and Lab (1) *	3
CHM 112	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Lab (2) *CHEM 1510 is not an S&T degree requirement. Will transfer as general credit.	3
ENG 102 or COM 110 or HSS Elective	English Composition II or Principles of Speech or Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	ENGLISH 1160 or SPMS 1185 or HSS Elective	Writing and Research or Principles of Speech or Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	28		Group 2 Major Requirements	24
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	65		Total Hours*	58

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

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

<u>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	SP&MS 1185	Principles of Speech	3
HST 202 or HST 103 or HST 104 or PSC 102	Renaissance to Early Mod Europe MOTR WCIV 102 or US History I to Reconstruction or US History II from Reconstruction or US and Missouri Govt. and Constitution	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization MOTR WCIV 102 or American History to 1877 or American History Since 1877 or American Government	3
CHM 112	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Lab (2) *CHEM 1510 is not an S&T degree requirement. Will transfer as general credit.	3
CHM 200	Organic Chemistry I	5	CHEM 2210, 2219*	Organic Chemistry I (3) and Lab* (1) *The lab is not required for the degree, will transfer as 1 of 9 hours of required science electives.	4
CHM 201	Organic Chemistry II	5	CHEM 2220, 2229*	Organic Chemistry II (3) and Lab(1) CHEM 2220 will transfer as 3 of 9 hours of required science electives. CHEM 2229 is not required for the degree. Will transfer as general credit.	3
CIS 155	Intro to Computer Programming	3	CS 1500	Computational Problem Solving	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	30		Group 2 Major Requirements	25
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	67		Total Hours*	59

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

## Civil Engineering Group 2 Major Requirements

<u>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
HST 202 or HST 103 or HST 104 or PSC 102	Renaissance to Early Mod Europe MOTR WCIV 102 or US History I to Reconstruction or US History II from Reconstruction or US and Missouri Govt. and Constitution	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization MOTR WCIV 102 or American History to 1877 or American History Since 1877 or American Government	3
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
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	22		Group 2 Major Requirements	20
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	59		Total Hours*	54

\*S&T advisor permission is required to transfer more than 69 credits toward the S&T 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	3
ENH 102	English Composition II	3	ENGLISH 1160	Writing and Research	3
HST 202 or HST 103 or HST 104 or PSC 102	Renaissance to Early Mod Europe MOTR WCIV 102 or US History I to Reconstruction or US History II from Reconstruction or US and Missouri Govt. and Constitution	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization MOTR WCIV 102 or American History to 1877 or American History Since 1877 or American Government	3
CIS 155	Intro to Computer Programming	3	CS 1500	Computational Problem Solving	3
EGR 228 and EGR 250 or BIO 201 or CHM 200	Engineering Mechanics - Statics (3) or Engineering Mechanincs - 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>*CHEM 2219 is not an S&amp;T degree requirement, will transfer as general credit.</small>	3
EGR 261	Circuit Analysis I	3	EE 2100**	Circuits I **A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for EE 2100.	3
MTH 172	Linear Algebra	3	MATH 3108	Linear Algebra <small>Will satisfy a required math elective.</small>	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Electives	Maximum Free Electives	3	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	27		Group 2 Major Requirements	27
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	64		Total Hours*	61

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

## Electrical Engineering Group 2 Major Requirements

Jefferson College		Semester	Missouri S&T		
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	3
ENH 102	English Composition II	3	ENGLISH 1160	Writing and Research	3
HST 202 or HST 103 or HST 104 or PSC 102	Renaissance to Early Mod Europe MOTR WCIV 102 or US History I to Reconstruction or US History II from Reconstruction or US and Missouri Govt. and Constitution	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization MOTR WCIV 102 or American History to 1877 or American History Since 1877 or American Government	3
CIS 155	Intro to Computer Programming	3	CS 1500	Computational Problem Solving	3
EGR 228 and EGR 250 (BOTH of the courses above or ONE course below.) OR BIO 201 or CHM 200	Engineering Mechanics - Statics (3) and Engineering Mechanincs - Dynamics (3) (Both courses above combined or the following courses will satisfy a required engineering science elective.) OR Genetics (4) or Organic Chemistry I (5)	3	CIV ENG 2200 and MECH ENG 2350 (BOTH of the courses above or ONE of the courses below.) OR BIO SCI 2223 or CHEM 2210, 2219*	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (2) (Both courses above combined or any one of the following courses will satisfy a required engineering science elective.) 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>	3
EGR 261	Circuit Analysis I	3	EE 2100**	Circuits I **A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for EE 2100.	3
MTH 172	Linear Algebra	3	MATH 3108	Linear Algebra	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Electives	Maximum Free Electives	3	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	30		Group 2 Major Requirements	30
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	67		Total Hours*	64

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

## Engineering Management 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
PSY 101	General Psychology	3	PSYCH 1101	General Psychology	3
HST 202 or HST 103 or HST 104 or	Renaissance to Early Mod Europe MOTR WCIV 102 or US History I to Reconstruction or US History II from Reconstruction or	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or	Modern Western Civilization MOTR WCIV 102 or American History to 1877 or American History Since 1877 or	3
PSC 102	US and Missouri Govt. and Constitution	3	POL SCI 1200	American Government	3
COM 110	Public Speaking	3	SPMS 1185	Principles of Speech	3
ENH 102	English Composition II	3	ENGLISH 1160	Writing and Research	3
CIS 155	Intro to Computer Programming	3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
EGR 261	Circuit Analysis I	3	EE 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 2350	Engineering Mechanics-Dynamics	2
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0	Electives	Maximum Free Electives	0
	Group 2 Major Requirements	30		Group 2 Major Requirements	29
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	67		Total Hours*	61

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

## Environmental Engineering Group 2 Major Requirements

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
HST 202 or HST 103 or HST 104	Renaissance to Early Mod Europe MOTR WCIV 102 or US History I to Reconstruction or US History II from Reconstruction	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310	Modern Western Civilization MOTR WCIV 102 or American History to 1877 or American History Since 1877	3
PHY 105	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
CHM 112	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Lab (2) <small>*CHEM 1510 is not an S&amp;T degree requirement. Will transfer as general credit.</small>	3
BIO 101	General Biology	5	BIO SCI 1113	General Biology	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
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	32		Group 2 Major Requirements	26
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	69		Total Hours*	60

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

## Geological Engineering Group 2 Major Requirements

Jefferson College		Semester	Missouri S&T		
EGR 101	Computer Aided Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
HST 202 or HST 103 or HST 104 or PSC 102	Renaissance to Early Mod Europe MOTR WCIV 102 or US History I to Reconstruction or US History II from Reconstruction or US and Missouri Govt. and Constitution	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization MOTR WCIV 102 or American History to 1877 or American History Since 1877 or American Government	3
CIS 155	Intro to Computer Programming	3	CS 1500	Computational Problem Solving	3
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
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	25		Group 2 Major Requirements	23
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	62		Total Hours*	57

\*S&T advisor permission is required to transfer more than 68 credits toward the S&T 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
HST 202 or HST 103 or HST 104 or PSC 102	Renaissance to Early Mod Europe MOTR WCIV 102 or US History I to Reconstruction or US History II from Reconstruction or US and Missouri Govt. and Constitution	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization MOTR WCIV 102 or American History to 1877 or American History Since 1877 or American Government	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	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
EGR 261	Circuit Analysis I	3	EE 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 175	Linear Algebra	3	MATH 3108	Linear Algebra I or (Will satisfy the Advanced Math/Computer Science elective requirement.)	3
MTT 148	Intro to Metallurgy	3	MET ENG 2110	Metallurgy for Engineers	3
ENG 130 or ENG 175 or ENG 215	English Life and Literature I or American Literature I or World Literature before 1650 or other literature	3	ENGLISH 1211 or ENGLISH 1221 or ENGLISH 1231	British Literature I: The Beginnings to 1800 or American Literature: 1600 to 1865 or World Literature I or other literature	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	33		Group 2 Major Requirements	33
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	70		Total Hours*	67

\*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

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
HST 202 or HST 103 or HST 104 or PSC 102	Renaissance to Early Mod Europe MOTR WCIV 102 or US History I to Reconstruction or US History II from Reconstruction or US and Missouri Govt. and Constitution	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization MOTR WCIV 102 or American History to 1877 or American History Since 1877 or American Government	3
EGR 228	Engineering Mechanics - Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CHM 112	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Lab (2) <small>*CHEM 1510 is not an S&amp;T degree requirement. Will transfer as general credit.</small>	3
CHM 200 or EGR 261	Organic Chemistry I (5) or Circuit Analysis I (4)	4	CHEM 2210, 2219 or EE 2800	Organic Chemistry I (4) or Electrical Circuits (3) or Not specifically required for the degree but will satisfy Out-of-Department Technical Elective Requirement. <small>*CHEM 2219 is not a degree requirement. Will transfer as general elective credit.</small>	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Electives	Maximum Free Electives	5	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	32		Group 2 Major Requirements	27
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	69		Total Hours*	61

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

## Mining Engineering Group 2 Major Requirements

Jefferson College		Semester	Missouri S&T		
EGR 101	Computer Aided Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 102	English Composition II	3	ENGLISH 1160	Writing and Research	3
HST 202 or HST 103 or HST 104 or PSC 102	Renaissance to Early Mod Europe MOTR WCIV 102 or US History I to Reconstruction or US History II from Reconstruction or US and Missouri Govt. and Constitution	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization MOTR WCIV 102 or American History to 1877 or American History Since 1877 or American Government	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
PHY 105	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	25		Group 2 Major Requirements	23
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	62		Total Hours*	57

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

## Nuclear Engineering Group 2 Major Requirements

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
HST 202 or HST 103 or HST 104 or PSC 102	Renaissance to Early Mod Europe MOTR WCIV 102 or US History I to Reconstruction or US History II from Reconstruction or US and Missouri Govt. and Constitution	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization MOTR WCIV 102 or American History to 1877 or American History Since 1877 or American Government	3
CIS 155	Intro to Computer Programming	3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
MTH 175	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	EE 2800	Electrical Circuits	3
MTT 148	Intro to Metallurgy	3	MET ENG 2110	Metallurgy for Engineers	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Electives	Maximum Free Electives	6	Electives	Maximum Free Electives	6
	Group 2 Major Requirements	36		Group 2 Major Requirements	36
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	73		Total Hours*	70

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

## Petroleum Engineering Group 2 Major Requirements

Jefferson College		Semester	Missouri S&T		
EGR 101	Computer Aided Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 102	English Composition II	3	ENGLISH 1160	Writing and Research	3
HST 202 or HST 103 or HST 104 or PSC 102	Renaissance to Early Mod Europe MOTR WCIV 102 or US History I to Reconstruction or US History II from Reconstruction or US and Missouri Govt. and Constitution	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization MOTR WCIV 102 or American History to 1877 or American History Since 1877 or American Government	3
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
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	25		Group 2 Major Requirements	23
	Group 1 Core Requirements	37		Group 1 Core Requirements	34
	Total Hours	62		Total Hours*	57

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