Missouri State University — Missouri S&T

General Engineering

Transfer Guide Effective as of Fall 2025

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.

	Missouri State University	<u>Se</u>	<u>mester</u>	<u>Missouri S&T</u>		
MTH 261	Analytic Geometry and Calculus I	5	MATH 1214	Calculus I Grade of C or better is required.		4
MTH 280	Analytic Geometry and Calculus II	5	MATH 1215	Calculus II Grade of C or better is required.		4
MTH 302	Multivariate Calculus	3	MATH 2222	Calculus III Grade of C or better is required.		4
MTH 303	Differential Equations	3	MATH 3304	Elementary Differential Equations		3
PHY 203	Foundations of Physics I	5	PHYSICS 1135	Engineering Physics I Grade of C or better is required.		4
PHY 204	Foundations of Physics II	5	PHYSICS 2135	Engineering Physics II Grade of C or better is required.		4
EGR 110	Study and Careers in Engineering	1	FR ENG 1100	Study and Careers in Engineering and Computing		1
ENG 110	Writing 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 or Biomaterials

Ceramic Engineering

Chemical Engineering and Biochemistry Emphasis

Civil Engineering

Computer Engineering

Electrical Engineering

Engineering Management

Environmental Engineering

Geological Engineering

Mechanical Engineering

Metallurgical Engineering

Mining Engineering

Nuclear Engineering

Petroleum Engineering

Engineering Major Requirements are detailed on the following pages.

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

This transfer guide is published by Missouri University of Science and Technology and is in effect as of Fall 2025.
Further information or updates are available from Missouri S&T Transfer Admissions at transfer.mst.edu, transfer@mst.edu, or 800-522-0938

	Aerospace Engine	ering	g Grou	p 2 Major R	equirements	
	Missouri State University		Semester		Missouri S&T	
TCM 110 ENG 210 or ENG 310 or COM 115 or	Intro to Engineering Design Writing II: Writing Across the Disciplines or Writing II: Writing for Grad. and Prof. Schools or Fundamentals of Public Speaking or	3	<u>Gemester</u>	MECH ENG 1720 ENGLISH 1160 or ENGLISH 3560 or	Intro to Engineering Design Writing and Research or Technical Writing or	3
ENG 221 or ENG 321	Writing II: Writing for the Professions or Writing II: Beginning Technical Writing			SPMS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement. General Chemistry I and Lab	
CHM 160, 161	General Chemistry I and Lab	5		CHEM 1310*, 1319	*CHEM 1310 will be substituted for CHEM 1305.	5
CSC 125	Intro to C++ Programming	4		COMP SCI 1971,1981	Intro to Programming Method and Lab (C++)	3
PHY 252	Intro to Circuit Analysis	3		ELEC ENG 2800	Electrical Circuits	3
PHY 233	Engineering Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
TCM 273	Mechanics of Materials	3		CIV ENG 2210	Mechanics of Materials	3
MTH 333 or MTH 545 or MTH 345* or CSC 421	Linear Algebra or Applied Statistics or Statistics for Scientists and Engineers* or Numerical Analysis	3		MATH 3108 or STAT 3115 or STAT 3117* or CS 3200	Linear Algebra I or Engineering Statistics or Intro to Probability and Statistics or Intro to Numerical Methods Math 3108, STAT 3115, or CS 3200 will directly satisfy the Advanced Math/Comp Sci elective requirement. *STAT 3117 will be substituted for the Advanced Math/Comp Sci elective requirement.	3
PHI 115	Ethics and Contemporary Issues	3		PHILOS 1130	How Should I Live? An Introduction to Ethics	3
1111113	or other engineering, business, bio, social ethics approved by advisor			neral Education Requir	or other engineering, business, bio, social ethics approved by advisor	0
	6 hours Behavioral a *At least one course must be selected from HISTORY 12	and Socia 200, 1300 Huma	I Sciences from , 1310, or POL anities and Fi	•	lines.	
ENG 340 or	Survey of English Literature I or	nours no	iii at ieast two		British Literature I: The Beginnings to 1800 or	
ENG 341 or ENG 350 or ENG 351 or HST 121* or HST 122* or ART 200 or MUS 241	Survey of English Literature I or Survey of American Literature I or Survey of American Literature I or Survey of American Literature II or Survey of the History of the U.S. to 1877* or Survey of the History of the U.S. since 1877* or Art in Context or The Language of Music *Satisfies the State of Missouri government requirement.	6	ral and Socia	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
	Solact 6					
HST 103 or HST 104* or GRY 100 or PHI 110 or PHI 105 or PLS 101* or PSY 121 or ECO 165 or ECO 155 or Foreign Language	World History to Circa 1600 C.E. or World History since 1600 C.E.* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Democracy and Citizenship* or Introductory Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6		specific disciplines. HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1105 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government*or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
	Hui	manities		ocial Sciences		
	Humanities, Arts, Social Sciences Elective: Any history, art,		Select 3 hour	5 .	Humanities, Arts, Social Sciences Elective: Any history, art,	
HASS Elective	music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3		HASS Elective	music, Atts, Social Sciences Elective. Arry history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
	No free electives applied to the degree.	0			Maximum Free Electives	0
	Group 2 Major Requirements	45			Group 2 Major Requirements	44
	Group 1 Core Requirements	30			Group 1 Core Requirements	27
	Total Ho	ours 75			Total Hours* *S&T advisor permission is required to transfer more than 68 credits toward the S&T Aerospace Engineering degree.	71

	Architectural Eng	gineeri	ng Gro	up 2 Major	Requirements	
	Missouri State University		Semeste		Missouri S&T	
TCM 110	Intro to Engineering Design	3		MECH ENG 1720	Intro to Engineering Design	3
ENG 210 or ENG 310 or COM 115 or ENG 221 or ENG 321	Writing II: Writing Across the Disciplines or Writing II: Writing for Grad. and Prof. Schools or Fundamentals of Public Speaking or Writing II: Writing for the Professions or Writing II: Beginning Technical Writing	3		ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHM 160, 161	General Chemistry I and Lab	5		CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
PHY 233	Engineering Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 333	Intermediate Mechanics	3		MECH ENG 2350	Engineering Mechanics-Dynamics	2
TCM 315	Thermodynamics and Heat Transfer	3		MECH ENG 2527	Thermal Analysis	3
TCM 273	Mechanics of Materials	3		CIV ENG 2210	Mechanics of Materials	3
GRY 275	Intro to Plane Surveying	3		CIV ENG 2401	Fundamentals of Surveying	3
MTH 545 or MTH 345	Applied Statistics or Statistics for Scientists and Engineers	3		STAT 3115* or STAT 3117*	Engineering Statistics* or Intro to Probability and Statistics* *Will be substituted for STAT 3113.	3
GLG 110	Principles of Geology	4		GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
ENG 340 or ENG 341 or ENG 350 or ENG 351 or	*At least one course must be selected from HISTO Se Survey of English Literature I or Survey of English Literature II or Survey of American Literature I or Survey of American Literature II or	Hun	nanities and F	•	State of Missouri government requirement. 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	
HST 121* or HST 122* or ART 200 or MUS 241	Survey of the History of the U.S. to 1877* or Survey of the History of the U.S. since 1877* or Art in Context or The Language of Music *Satisfies the State of Missouri government requirement.	6		HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
	Select 6 hours fo		oral and Soci	al Sciences ciplines to include HISTC	DPV 1200	
HST 104*	World History since 1600 C.E.* *Satisfies the State of Missouri government requirement.	3	vo apcomo dioc	HISTORY 1200*	Modern Western Civilization* *Satisfies the State of Missouri Government requirement.	3
PHI 110 or PHI 105 or PLS 101* or PSY 121 or ECO 165 or ECO 155 or Foreign Language	Intro to Philosophy or Critical Thinking or American Democracy and Citizenship* or Introductory Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language "Satisfies the State of Missouri government requirement.	3		PHILOS 1105 or PHILOS 1115 or POL SCI 1200* 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 American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3
	No free electives applied to the degree.	0			Maximum Free Electives	0
	Group 2 Major Requirements	45			Group 2 Major Requirements	43
	Group 1 Core Requirements	30 otal Hours 75			Group 1 Core Requirements *S&T advisor permission is required to transfer more than 69 credits to Architectural Engineering degree.	Total Hours* 70 oward the S&T

		_		eering-Biomanufac ajor Requirements		
	Missouri State University			Semester	Missouri S&T	
COM 115	Fundamentals of Public Speaking		3	SP&MS 1185	Principles of Speech	3
CHM 160, 161	General Chemistry I and Lab		5	CHEM 1310, 1319	Applies to degree as Gen Ed Communication requirement. General Chemistry I and Lab	5
CHM 170, 171	General Chemistry II and Lab		5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2)	3
CHM 342	Organic Chemistry I		3	CHEM 2210	*CHEM 1510 is not a degree requirement, transfers as general elective credit. Organic Chemistry I	3
CHEM 343 or BIO 121 or BIO 235	Organic Chem II (3) or General Biology I (4) or Genetics (3)		4	CHEM 2220 or BIO SCI 1113, 1219 or BIO SCI 2223	Organic Chemistry II (3) or General Biology and Lab (4) or General Genetics (3) Applies to degree as Track Elective.	3
BIO 320	Cellular and Molecular Biology		4	BIO SCI 2213, 2219	Cell Biology and Lab	4
CSC 131 or CSC 232 or CSC 125*	Computational Thinking (4) or Data Structures (4) or Intro to C++ Programming* (4)		3	CS 1500 or CS 1971*,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* (C++) *Course will be substituted for CS 1500.	3
	From the o	options listed manities and 3 hours ORY 1200, 1	d in e Fine Beha 1300,		ude and	
				nities and Fine Arts n at least two specific disciplines.		
ENG 340 or ENG 341 or ENG 350 or ENG 351 or HST 121* or HST 122* or ART 200 or MUS 241	Survey of English Literature I or Survey of English Literature II or Survey of American Literature II or Survey of American Literature II or Survey of the History of the U.S. to 1877* or Survey of the History of the U.S. since 1877* or Art in Context or The Language of Music *Satisfies the State of Missouri government requirement.		6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300° or HISTORY 1310° or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
		Beha		al and Social Sciences		
HST 103 or HST 104* or GRY 100 or PLS 101* or PSY 121 or ECO 165 or ECO 155 or Foreign Language	World History to Circa 1600 C.E. or World History since 1600 C.E.* or World Regional Geography or American Democracy and Citizenship* or Introductory Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.		3	Select 3 hours. HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3
				Arts, and Social Sciences LISH 3560 required.		
ENG 221 or ENG 321	Writing II: Writing for the Professions or Writing II: Beginning Technical Writing		3	ENGLISH 3560	Technical Writing	3
_	No free electives applied to the degree. Group 2 Major Requirements Group 1 Core Requirements	Γotal Hours	0 39 30 69		Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements Total Hours* *S&T advisor permission is required to transfer more than 69 credit hours toward the degree.	0 36 27 63

			_	ing-Biomate equirements		
	Missouri State University	•	Semeste	r	Missouri S&T	
COM 115	Fundamentals of Public Speaking		3	SP&MS 1185	Principles of Speech	3
CHM 160, 161	General Chemistry I and Lab		5	CHEM 1310, 1319	Applies to degree as Gen Ed Communication requirement. General Chemistry I and Lab	5
CHM 170, 171	General Chemistry II and Lab		5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2)	3
CHM 342	Organic Chemistry I		3	CHEM 2210	*CHEM 1510 is not a degree requirement, transfers as general elective credit. Organic Chemistry I	3
CHM 343	Organic Chemistry II		3	CHEM 2220	Organic Chemistry II	3
BIO 121	General Biology I		4	BIO SCI 1113*, 1219*	General Biology* and Lab* *Applies to degree as Track Elective (Non-engineering).	4
BIO 320	Cellular and Molecular Biology		4	BIO SCI 2213, 2219	Cell Biology and Lab	4
CSC 131 or CSC 232 or CSC 125*	Computational Thinking (4) or Data Structures (4) or Intro to C++ Programming* (4)		3	CS 1500 or CS 1971*,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* (C++) *Course will be substituted for CS 1500.	3
PHY 233	Engineering Statics		3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 252	Intro to Circuit Analysis		3	ELEC ENG 2100*, 2101	Circuits I* (3) and Circuit Analysis Lab (1) *A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for ELEC ENG 2100. Applies to the degree as a Track Elective (Engineering).	4
	*At least one course must be selected from HIST	3 hours l ORY 1200, 13 Hu	Behavioral and S 800, 1310, or PO Imanities and I	L SCI 1200 to satisfy the Si Fine Arts		
ENG 340 or	Survey of English Literature I or	elect 6 hours	from at least tw	o specific disciplines. ENGLISH 1211 or	British Literature I: The Beginnings to 1800 or	
ENG 341 or ENG 350 or ENG 350 or ENG 351 or HST 121* or HST 122* or ART 200 or MUS 241	Survey of English Literature II or Survey of American Literature I or Survey of American Literature II or Survey of the History of the U.S. to 1877* or Survey of the History of the U.S. since 1877* or Art in Context or The Language of Music *Satisfies the State of Missouri government requirement.		6	ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300° or HISTORY 1310° or ART 1180 or MUSIC 1150	British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
		Behav	vioral and Soci			
HST 103 or HST 104* or GRY 100 or PLS 101* or PSY 121 or ECO 165 or ECO 155 or Foreign Language	World History to Circa 1600 C.E. or World History since 1600 C.E.* or World Regional Geography or American Democracy and Citizenship* or Introductory Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.		Select 3 hou	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3
			es, Arts, and S	Social Sciences required.		
ENG 221 or ENG 321	Writing II: Writing for the Professions or Writing II: Beginning Technical Writing		3	ENGLISH 3560	Technical Writing	3
	No free electives applied to the degree.		0		Maximum Free Electives	0
	Group 2 Major Requirements Group 1 Core Requirements -		18 30 78		Group 2 Major Requirements Group 1 Core Requirements Total Hours *S&T advisor permission is required to transfer more than 69 credits toward the S&T Biomedical Engineering degree.	47 27 s* 74

	Ceramic Engineer	ina	Group	2 Maior Reg	uirements	
		3				
TCM 110	Missouri State University Intro to Engineering Design	3	Semester	MECH ENG 1720	Missouri S&T Intro to Engineering Design	3
ENG 210 or ENG 310 or COM 115 or ENG 221 or ENG 321	Writing II: Writing Across the Disciplines or Writing II: Writing for Grad. and Prof. Schools or Fundamentals of Public Speaking or Writing II: Writing for the Professions or Writing II: Beginning Technical Writing	3		ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
PHY 233	Engineering Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
TCM 273	Mechanics of Materials	3		CIV ENG 2210	Mechanics of Materials	3
CHM 160, 161	General Chemistry I and Lab	5		CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 170, 171	General Chemistry II and Lab	5		CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) *CHEM 1510 is not a degree requirement, transfers as general elective credit.	3
CHM 342 or CHM 375	Organic Chemistry I or Inorganic Chemistry	3		CHEM 2210 or CHEM 3310	Organic Chemistry I (3) or Inorganic Chemistry I (3) Satisfies the advanced chemistry elective requirement.	3
MTH 545 or MTH 345	Applied Statistics or Statistics for Scientists and Engineers	3		STAT 3115 or STAT 3117	Engineering Statistics or Intro to Probability and Statistics or any statistics course 3000-level or higher. Satisfies statistics elective requirement.	3
PHY 375	Modern Physics	3		PHYS 2305 eneral Education Requirer	Intro to Modern Physics	3
	6 hours Humanities a	and Find d Socia 0, 130 0	Arts from at le Sciences fron	•	nd ies.	
	Select 6 ho			o specific disciplines.		
ENG 340 or ENG 341 or ENG 350 or ENG 351 or HST 121* or HST 122* or ART 200 or MUS 241	Survey of English Literature I or Survey of English Literature II or Survey of American Literature I or Survey of American Literature II or Survey of the History of the U.S. to 1877* or Survey of the History of the U.S. since 1877* or Art in Context or The Language of Music 'Satisfies the State of Missouri government requirement.	6		ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation **Satisfies the State of Missouri government requirement.	6
			ral and Socia	al Sciences o specific disciplines.		
HST 103 or HST 104* or GRY 100 or PHI 110 or PHI 105 or PLS 101* or PSY 121 or ECO 165 or ECO 155 or Foreign Language	World History to Circa 1600 C.E. or World History since 1600 C.E.* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Democracy and Citizenship* or Introductory Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	ar sast arc	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSVCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government*or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language **Satisfies the State of Missouri government requirement.	6
	Hum	anities	, Arts, and So Select 3 hour	ocial Sciences		
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
	No free electives applied to the degree. Group 2 Major Requirements Group 1 Core Requirements Total Hour	0 46 30 rs 76			Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements Total Hours* *S&T advisor permission is required to transfer more than 68 credits toward the S&T Ceramic Engineering degree.	0 44 27 71

	Chemical Engineering	g - Bio	ochen		ering Emphasis	
	Group	2 Ma	ajor R	equirements		
	Missouri State University		Semeste		Missouri S&T	
TCM 110	Intro to Engineering Design	3		MECH ENG 1720	Intro to Engineering Design Principles of Speech	3
COM 115	Fundamentals of Public Speaking	3		SP&MS 1185	Applies to degree as Gen Ed Communication requirement.	3
CHM 160, 161	General Chemistry I and Lab	5		CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 170, 171	General Chemistry II and Lab	5		CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis* (2) *CHEM 1510 is not a degree requirement, transfers as general elective credit.	3
CHM 342	Organic Chemistry I	3		CHEM 2210	Organic Chemistry I	3
CHM 343 or CHM 302 or CHM 452 or BIO 320 or BIO 310	Organic Chemistry II (3) or Intro to Analytical Chemistry (5) or Biochemistry (3) or Cellular and Molecular Biology (4) or Microbiology (3) Select up to 9 hours from these options.	9		CHEM 2220 or CHEM 2510 or BIO SCI 2213, 2219 or BIO SCI 3313, 3319 or CHEM 4610, 4619	Organic Chemistry II (3) or Analytical Chemistry (4) or Cell Biology and Lab (4) or Microbiology and Lab (5) or General Biochemistry and Lab (5) Applies to the degree as required science elective credits. Select up to 9 hours from these options.	9
CSC 131 or CSC 232 or CSC 125*	Computational Thinking (4) or Data Structures (4) or Intro to C++ Programming* (4)	3		CS 1500 or CS 1971*,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* (C++) *Course will be substituted for CS 1500.	3
MTH 545 or MTH 345	Applied Statistics or Statistics for Scientists and Engineers	3		STAT 3115* or STAT 3117*	Engineering Statistics* or Intro to Probability and Statistics* *Will be substituted for STAT 3113.	3
	6 hours Humanitie	es and Fine and Social 1200, 1300,	Arts from at I Sciences from	•	and ines.	
	Select 6			specific disciplines.		
ENG 340 or ENG 341 or ENG 350 or ENG 351 or HST 121* or HST 122* or ART 200 or MUS 241	Survey of English Literature I or Survey of English Literature II or Survey of American Literature II or Survey of American Literature II or Survey of the History of the U.S. to 1877* or Survey of the History of the U.S. since 1877* or Art in Context or The Language of Music "Satisfies the State of Missouri government requirement.	6		ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
			al and Soci			
HST 103 or	World History to Circa 1600 C.E. or	hours fror	n at least tw	o specific disciplines. HISTORY 1100 or	Early Western Civilization or	
HST 104* or GRY 100 or PHI 110 or PHI 15 or PLS 101* or PSY 121 or ECO 155 or ECO 155 or Foreign Language	World History since 1600 C.E.* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Democracy and Citizenship* or Introductory Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6		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	Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government*or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
			Arts, and S LISH 3560 re	ocial Sciences equired.		
ENG 221 or ENG 321	Writing II: Writing for the Professions or Writing II: Beginning Technical Writing	3		ENGLISH 3560	Technical Writing	3
	No free electives applied to the degree. Group 2 Major Requirements Group 1 Core Requirements	0 49 30 lours 79			Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements Total Hours* '\$&T advisor permission is required to transfer more than 68 credits toward the \$&T Chemical Engineering degree.	0 47 27 74

	Civil Engineeri	ng G	roup 2	Major Requ	uirements	
	Missouri State University		Semeste	,	Missouri S&T	
TCM 110	Intro to Engineering Design	3		MECH ENG 1720	Intro to Engineering Design	3
ENG 210 or ENG 310 or COM 115 or ENG 221 or ENG 321	Writing II: Writing Across the Disciplines or Writing II: Writing for Grad. and Prof. Schools or Fundamentals of Public Speaking or Writing II: Writing for the Professions or Writing II: Beginning Technical Writing	3		ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHM 160, 161	General Chemistry I and Lab	5		CHEM 1310, 1319	General Chemistry I and Lab	5
GLG 110	Principles of Geology	4		GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
PHY 233	Engineering Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 333	Intermediate Mechanics	3		MECH ENG 2350	Engineering Mechanics-Dynamics	2
TCM 273	Mechanics of Materials	3		CIV ENG 2210	Mechanics of Materials	3
GRY 275	Intro to Plane Surveying	3		CIV ENG 2401	Fundamentals of Surveying	3
MTH 545 or MTH 345	Applied Statistics or Statistics for Scientists and Engineers	3		STAT 3115* or STAT 3117*	Engineering Statistics* or Intro to Probability and Statistics* *Will be substituted for STAT 3113.	3
	6 hours Humanit	es and Fir I and Soci 1200, 130	ne Arts from at I al Sciences fror	•	s and plines.	
	Select	6 hours fr	om at least tw	o specific disciplines.		
ENG 340 or ENG 341 or ENG 350 or ENG 351 or HST 121* or HST 122* or ART 200 or MUS 241	Survey of English Literature I or Survey of English Literature II or Survey of American Literature II or Survey of American Literature II or Survey of the History of the U.S. to 1877* or Survey of the History of the U.S. since 1877* or Art in Context or The Language of Music *Satisfies the State of Missouri government requirement.	6		ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
		Behavi	oral and Soci	al Sciences		
	Select	6 hours fr	om at least tw	o specific disciplines.		
HST 103 or HST 104* or GRY 100 or PHI 110 or PHI 105 or PSY 121 or ECO 165 or ECO 155 or Foreign Language	World History to Circa 1600 C.E. or World History since 1600 C.E.* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Democracy and Citizenship* or Introductory Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	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	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government*or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
	Н	umanitie	s, Arts, and S Select 3 hou	ocial Sciences rs.		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, and music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	t, 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
	No free electives applied to the degree.	0			Maximum Free Electives	0
	Group 2 Major Requirements Group 1 Core Requirements Total I	45 30 Hours 75			Group 2 Major Requirements Group 1 Core Requirements Total Hours* *S&T advisor permission is required to transfer more than 69 credits toward the S&T Civil Engineering degree.	43 27 70

	Missouri State University		Semeste	1	Missouri S&T	
COM 115	Fundamentals of Public Speaking	3		SPMS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHM 160, 161	General Chemistry I and Lab	5		CHEM 1310, 1319	General Chemistry I and Lab	5
MTH 314	Discrete Mathematics	3		CS 1200	Discrete Math for Computer Science	3
CSC 131 or	Computational Thinking (4) or	_				
CSC 232 or CSC 125	Data Structures (4) or Intro to C++ Programming (4)	3		CS 1500	Computational Problem Solving	3
PHY 233 or	Statics (3) or			CIV ENG 2200 or	Engineering Mechanics-Statics (3) or	
PHY 333 or	Intermediate Mechanics (3) or			MECH ENG 2350 or	Engineering Mechanics-Dynamics (3) or	
TCM 315 or	Thermodynamics and Heat Transfer (3) or			MECH 2527 or	Thermal Analysis (3) or	
CHM 342 or	Organic Chemistry I (3) or	3		CHEM 2210 or	Organic Chemistry I (3) or	3
PHY 325 or	Modern Physics (3) or			PHYSICS 2305 or	Intro to Theoretical Physics (3) or	
BIO 320 or BIO 235	Cellular and Molecular Biology (4) or Genetics (3)			BIO SCI 2213 or BIO SCI 2223	Cell Biology (3) or General Genetics (3)	
DIO 233	Genetics (3)			DIO 301 2223	Satisfies a required science/engineering elective	
DUN 050	lates to Circuit Analysis			EL EO ENO 0400+ 0404	Circuits I* (3) and Circuit Analysis Lab (1)	
PHY 252	Intro to Circuit Analysis	3		ELEC ENG 2100*, 2101	*A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for ELEC ENG 2100.	4
MTH 333 or	Linear Algebra or			MATH 3108 or	Linear Algebra or	
MTH 315	Algebraic Structures	3		MATH 3109	Foundations of Mathematics	3
	Augustato Ottuoturos			WW 1111 0 100	Satisfies a required math elective. Intro to Probability and Statistics or	
MTH 345 or	Statistics for Scientists and Engineers or	3		STAT 3117 or	Engineering Statistics*	3
MTH 545*	Applied Statistics*	·		STAT 3115*	*Will be substituted for STAT 3117.	·
	Humanities, Arts	, and Socia	l Sciences G	eneral Education Require	ements	
				elow, select 15 hours to inclu		
				east two specific disciplines a n at least two specific discipli		
	*At least one course must be selected from HISTOR					
		•	anities and F	•		
	Selec			o specific disciplines.		
ENG 340 or	Survey of English Literature I or			ENGLISH 1211 or	British Literature I: The Beginnings to 1800 or	
ENG 341 or	Survey of English Literature II or			ENGLISH 1212 or	British Literature II: 1800 to Present	
ENG 350 or ENG 351 or	Survey of American Literature I or			ENGLISH 1221 or ENGLISH 1222 or	American Literature: 1600 to 1865 or	
HST 121* or	Survey of American Literature II or Survey of the History of the U.S. to 1877* or	6		HISTORY 1300* or	American Literature: 1865 to Present or American History to 1877* or	6
HST 122* or	Survey of the History of the U.S. since 1877* or	_		HISTORY 1310* or	American History Since 1877* or	-
ART 200 or	Art in Context or			ART 1180 or	Art Appreciation or	
MUS 241	The Language of Music			MUSIC 1150	Music Understanding and Appreciation	
	*Satisfies the State of Missouri government requirement.	Rohavi	oral and Soci	al Sciences	*Satisfies the State of Missouri government requirement.	
	Selec			o specific disciplines.		
HST 103 or	World History to Circa 1600 C.E. or			HISTORY 1100 or	Early Western Civilization or	
HST 104* or	World History since 1600 C.E.* or			HISTORY 1200* or	Modern Western Civilization* or	
GRY 100 or	World Regional Geography or			HISTORY 2110 or	World Regional Geography or	
PHI 110 or	Intro to Philosophy or			PHILOS 1105 or	Self and World: Intro to Philosophy or	
PHI 105 or PLS 101* or	Critical Thinking or American Democracy and Citizenship* or	6		PHILOS 1115 or POL SCI 1200* or	Logic and Reasoning: An Introduction or American Government*or	6
PSY 121 or	Introductory Psychology or	U		PSYCH 1101 or	General Psychology or	U
ECO 165 or	Principles of Microeconomics or			ECON 1100 or	Principles of Microeconomics or	
ECO 155 or	Principles of Macroeconomics or			ECON 1200 or	Principles of Macroeconomics or	
Foreign Language	Elementary or Intermediate Foreign Language			Foreign Language	Elementary or Intermediate Foreign Language	
	*Satisfies the State of Missouri government requirement.	Humanitio	. Arte and Q	ocial Sciences	*Satisfies the State of Missouri government requirement.	
		amile	Select 3 hou			
ENG 210 or	Writing II: Writing Across the Disciplines or					
ENG 310 or	Writing II: Writing for Grad. and Prof. Schools or	3		ENGLISH 1160 or	Writing and Research or	3
ENG 221 or	Writing II: Writing for the Professions or	3		ENGLISH 3560	Technical Writing	
ENG 321	Beginning Technical Writing					
Electives	Maximum Free Electives	3		Electives	Maximum Free Electives	3
	Group 2 Major Requirements	44			Group 2 Major Requirements	45
	Group 1 Core Requirements	30			Group 1 Core Requirements	27
	Total	I Hours 74			Total Hours*	72

	Electrical Eng	ineerin	ıg	Group	2 Major Rec	uirements	
	Missouri State University			Semester		Missouri S&T	
TCM 110	Intro to Engineering Design		3		MECH ENG 1720	Intro to Engineering Design	3
COM 115	Fundamentals of Public Speaking		3		SPMS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHM 160, 161	General Chemistry I and Lab		5		CHEM 1310, 1319	General Chemistry I and Lab	5
CSC 131 or CSC 232 or CSC 125	Computational Thinking (4) or Data Structures (4) or Intro to C++ Programming (4)		3		CS 1500	Computational Problem Solving	3
PHY 233 and PHY 333 BOTH of the courses above or ONE of the courses below OR TCM 315 or CHM 342 or PHY 325 or BIO 320 or BIO 235	Statics and Intermediate Mechanics Both courses above combined or any one of the following courses will satisfund the science elective. OR Thermodynamics and Heat Transfer (3) or Organic Chemistry I (3) or Modern Physics (3) or Cellular and Molecular Biology (4) or Genetics (3)		3		CIV ENG 2200 and MECH ENG 2350 BOTH of the courses above or ONE of the courses below. OR MECH 2527 or CHEM 2210 or PHYSICS 2305 or BIO SCI 2223	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (3) Both courses above combined or any one of the following courses will satisfy a required engineering science elective. OR Thermal Analysis (3) or Organic Chemistry I (3) or Intro to Theoretical Physics (3) or Cell Biology (3) or General Genetics (3)	3
PHY 252	Intro to Circuit Analysis		3		ELEC ENG 2100*, 2101	Circuits I* (3) and Circuit Analysis Lab (1) *A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for ELEC ENG 2100.	4
MTH 333	Linear Algebra		3		MATH 3108	Linear Algebra	3
MTH 345 or MTH 545*	Statistics for Scientists and Engineers or Applied Statistics*		3		STAT 3117 or STAT 3115*	Intro to Probability and Statistics or Engineering Statistics* *Will be substituted for STAT 3117.	3
	From the 6 hours H 6 hours Bel *At least one course must be selected from HIS	options listed umanities and I navioral and So TORY 1200, 13	in ea Fine ocial 300, uma	ach group be Arts from at le Sciences fron 1310, or POL nities and F	•	e d es.	
ENG 340 or ENG 341 or ENG 350 or ENG 351 or HST 121* or HST 122* or ART 200 or MUS 241	Survey of English Literature I or Survey of English Literature II or Survey of American Literature I or Survey of American Literature II or Survey of the History of the U.S. to 1877* or Survey of the History of the U.S. since 1877* or Art in Context or The Language of Music *Satisfies the State of Missouri government requirement.		6		ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1212 or ENGLISH 1222 or HISTORY 1300° or HISTORY 1310° or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
				al and Socia			
HST 103 or HST 104* or GRY 100 or PHI 110 or PHI 105 or PLS 101* or PSY 121 or ECO 165 or ECO 155 or Foreign Language	World History to Circa 1600 C.E. or World History since 1600 C.E.* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Democracy and Citizenship* or Introductory Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.		6		specific disciplines. HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1105 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government*or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
		Humanit	,	Arts, and Select 3 hour	ocial Sciences s.		
ENG 210 or ENG 310 or ENG 221 or ENG 321	Writing II: Writing Across the Disciplines or Writing II: Writing for Grad. and Prof. Schools or Writing II: Writing for the Professions or Beginning Technical Writing		3	- 5150t 0 110til	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
Electives	Maximum Free Electives		6		Electives	Maximum Free Electives	6
	Group 2 Major Requirements Group 1 Core Requirements		47 30 77			Group 2 Major Requirements Group 1 Core Requirements Total Hours* *S&T advisor permission is required to transfer more than 68 credits toward the S&T Electrical Engineering degree.	48 27 75

	Engineering Ma	ınagemer	nt Group 2 Major I	Requirements	
	Missouri State University		Semester	Missouri S&T	
TCM 110	Intro to Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
COM 115	Fundamentals of Public Speaking	3	SPMS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHM 160, 161	General Chemistry I and Lab	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CSC 125	Intro to C++ Programming	4	COMP SCI 1971.1981	Intro to Programming Method and Lab (C++)	3
PHY 252	Intro to Circuit Analysis	3	ELEC ENG 2800	Electrical Circuits	3
PHY 233	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 333	Intermediate Mechanics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
TCM 315	Thermodynamics and Heat Transfer	3	MECH ENG 2527	Thermal Analysis	3
TCM 273	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
MTH 545 or	Applied Statistics or	3	STAT 3115 or	Engineering Statistics or	3
MTH 345	Statistics for Scientists and Engineers	3	STAT 3117	Intro to Probability and Statistics	3
	Humanities	, Arts, and Social	Sciences General Education Requi		
	6 hours	Humanities and Fine ehavioral and Social	each group below, select 15 hours to inc Arts from at least two specific disciplines Sciences from at least two specific disciplines 1310 or POL SCI 1300 to satisfy the	s and olines.	
	At least one course must be selected from the		nities and Fine Arts	tate of missouri government requirement.	
			n at least two specific disciplines.		
ENG 340 or ENG 341 or ENG 350 or ENG 351 or HST 121* or HST 122* or ART 200 or MUS 241 PSY 121 HST 103 or HST 104* or GRY 100 or PHI 110 or PHI 105 or PLS 101* or	Survey of English Literature I or Survey of English Literature II or Survey of American Literature II or Survey of American Literature II or Survey of the History of the U.S. to 1877* or Survey of the History of the U.S. since 1877* or Art in Context or The Language of Music *Satisfies the State of Missouri government requirement. Select 6 ho Introductory Psychology World History to Circa 1600 C.E. or World History since 1600 C.E.* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Democracy and Citizenship* or	6 Behavior	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 Fall and Social Sciences o specific disciplines to include PSYC PSYCH 1101 HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement. H 1101. General Psychology Required Early Western Civilization or Modern Western Civilization or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government*or	3
ECO 165 or ECO 155 or Foreign Language	Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language Satisfies the State of Missouri government requirement.	Humanities ,	ECON 1100 or ECON 1200 or Foreign Language	Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	
			Select 3 hours.		
ENG 210 or ENG 310 or ENG 221 or ENG 321	Writing II: Writing Across the Disciplines or Writing II: Writing for Grad. and Prof. Schools or Writing II: Writing for the Professions or Beginning Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
	No free electives applied to the degree.	0	Electives	Maximum Free Electives	0
	Group 2 Major Requirements	48		Group 2 Major Requirements	46
	Group 1 Core Requirements	30		Group 1 Core Requirements	27
		Total Hours 78		*S&T advisor permission is required to transfer more than 61 credits to Engineering Management degree.	Total Hours* 61 oward the S&T

	Environmental En	ginee	ring Gr	oup 2 Major	Requirements	
	Missouri State University		Semeste	r	Missouri S&T	
TCM 110	Intro to Engineering Design	3	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 210 or ENG 310 or COM 115 or ENG 221 or ENG 321	Writing II: Writing Across the Disciplines or Writing II: Writing for Grad. and Prof. Schools or Fundamentals of Public Speaking or Writing II: Writing for the Professions or Writing II: Beginning Technical Writing	Ş	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
GLG 110	Principles of Geology	4	ı	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
CHM 160, 161	General Chemistry I and Lab	Ę	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 170, 171	General Chemistry II and Lab	ŧ	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) *CHEM 1510 is not a degree requirement, transfers as general elective credit.	3
BIO 121	General Biology I	4		BIO SCI 1113, 1219*	General Biology (3) and Lab* (1) *The lab is not a degree requirement, transfers as general elective credit.	3
PHY 233	Engineering Statics	3	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 333	Intermediate Mechanics	3	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
MTH 545 or MTH 345	Applied Statistics or Statistics for Scientists and Engineers	3	3	CIV ENG 2211	Materials Testing	1
MTH 545 or MTH 345	Applied Statistics or Statistics for Scientists and Engineers	3	3	STAT 3115* or STAT 3117*	Engineering Statistics* or Intro to Probability and Statistics* *Will be substituted for STAT 3113.	3
ENG 340 or ENG 341 or	Survey of English Literature I or Survey of English Literature II or	Hu	manities and l	Fine Arts ro specific disciplines. ENGLISH 1211 or ENGLISH 1212 or	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present	
ENG 350 or ENG 351 or HST 121* or HST 122* or ART 200 or MUS 241	Survey of American Literature I or Survey of American Literature II or Survey of the History of the U.S. to 1877* or Survey of the History of the U.S. since 1877* or Art in Context or The Language of Music *Satisfies the State of Missouri government requirement.	(5	ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	American Literature: 1800 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
			rioral and Soc			
		rom at least	two specific dis	ciplines to include HISTC		
HST 104*	World History since 1600 C.E.* *Satisfies the State of Missouri government requirement.	3	3	HISTORY 1200*	Modern Western Civilization* *Satisfies the State of Missouri Government requirement.	3
PHI 110 or PHI 105 or PLS 101* or PSY 121 or ECO 165 or ECO 155 or Foreign Language	Intro to Philosophy or Critical Thinking or American Democracy and Citizenship* or Introductory Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	;	3	PHILOS 1105 or PHILOS 1115 or POL SCI 1200* 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 American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3
	No free electives applied to the degree.	()		Maximum Free Electives	0
	Group 2 Major Requirements Group 1 Core Requirements To	4 3 otal Hours 7	0		Group 2 Major Requirements Group 1 Core Requirements Total Ho *S&T advisor permission is required to transfer more than 69 credits toward the S&T Environmental Engineering degree.	41 27 urs* 68

	Geological Engin	eerin	g Grou	ıp 2 Major R	Requirements	
	Missouri State University		Semeste	·	Missouri S&T	
TCM 110	Intro to Engineering Design	3	<u>oomooto.</u>	MECH ENG 1720	Intro to Engineering Design	3
ENG 221 or ENG 321	Writing II: Writing for the Professions or Writing II: Beginning Technical Writing	3		ENGLISH 3560	Technical Writing Applies to degree as Gen Ed Communication requirement.	3
CHM 160, 161	General Chemistry I and Lab	5		CHEM 1310, 1319	General Chemistry I and Lab	5
CSC 125 or CSC 131 or CSC 197 or CSC 232	Intro to C++ Programming (4) or Computational Thinking (4) or Introductory Topics in Computer Science (3) or Data Structures (4)	3		CS 1500 or CS 1971, 1981	Computational Problem Solving or Intro to Programming Methodology and Lab	3
GLG 110	Principles of Geology	4		GEO ENG 1150 (GEOLOGY 1110)	Physical and Environmental Geology	3
PHY 233	Engineering Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 333	Intermediate Mechanics	3		MECH ENG 2350	Engineering Mechanics-Dynamics	2
TCM 273	Mechanics of Materials	3		CIV ENG 2210	Mechanics of Materials	3
MTH 545 or MTH 345	Applied Statistics or Statistics for Scientists and Engineers	3		STAT 3115* or STAT 3117*	Engineering Statistics* (preferred) or Intro to Probability and Statistics*	3
	11		0-1	eneral Education Requi	*STAT 3115 is preferred. STAT 3117 will be accepted.	
	6 hours Humani	ties and Fine al and Social ′ 1200, 1300	Arts from at I Sciences from , 1310, or PO	•	s and iplines.	
	Selec		anities and F	ine Arts o specific disciplines.		
ENG 340 or ENG 341 or ENG 350 or ENG 351 or HST 121* or HST 122* or ART 200 or MUS 241	Survey of English Literature I or Survey of English Literature II or Survey of American Literature II or Survey of American Literature II or Survey of the History of the U.S. to 1877* or Survey of the History of the U.S. since 1877* or Art in Context or The Language of Music *Satisfies the State of Missouri government requirement.	6		ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
		Behavio	ral and Soci	al Sciences		
	Select	t 6 hours fro	m at least two	o specific disciplines.		
HST 103 or HST 104* or GRY 100 or PHI 110 or PHI 105 or PLS 101* or PSY 121 or ECO 165 or ECO 155 or Foreign Language	World History to Circa 1600 C.E. or World History since 1600 C.E.* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Democracy and Citizenship* or Introductory Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	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	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
	•	Humanities	, Arts, and S Select 3 hou	ocial Sciences rs.		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, a music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	art, 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
	No free electives applied to the degree.	0			Maximum Free Electives	0
	Group 2 Major Requirements Group 1 Core Requirements Total	45 30 Hours 75			Group 2 Major Requirements Group 1 Core Requirements Total Hours* *S&T advisor permission is required to transfer more than 65 credits toward the S&T Geological Engineering degree.	43 27 70

	Mechanical Engine	erin	g Grou	ıp 2 Major R	Requirements	
	Missouri State University		Semeste	,	Missouri S&T	
TCM 110 ENG 210 or ENG 310 or COM 115 or ENG 221 or ENG 321	Intro to Engineering Design Writing II: Writing Across the Disciplines or Writing II: Writing for Grad. and Prof. Schools or Fundamentals of Public Speaking or Writing II: Writing for the Professions or Writing II: Beginning Technical Writing	3		MECH ENG 1720 ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Intro to Engineering Design Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHM 160, 161	General Chemistry I and Lab	5		CHEM 1310*, 1319	General Chemistry I and Lab "CHEM 1310 will be substituted for CHEM 1305.	5
CSC 125 PHY 252 PHY 233 TCM 273	Intro to C++ Programming Intro to Circuit Analysis Engineering Statics Mechanics of Materials	4 3 3 3		COMP SCI 1971,1981 ELEC ENG 2800 CIV ENG 2200 CIV ENG 2210	Intro to Programming Method and Lab (C++) Electrical Circuits Engineering Mechanics-Statics Mechanics of Materials	3 3 3 3
MTH 333 or MTH 545 or MTH 345*	Linear Algebra or Applied Statistics or Statistics for Scientists and Engineers*	3		MATH 3108 or STAT 3115 or STAT 3117*	Linear Algebra I or Engineering Statistics or Intro to Probability and Statistics Math 3108 or STAT 3115 will directly satisfy the Advanced Math/Comp Sci elective requirement. 'STAT 3117 will be substituted for the Advanced Math/Comp Sci elective requirement.	3
	From the options 6 hours Humanities	listed in and Fin and Socia	each group be e Arts from at I al Sciences fror	•	clude s and plines.	
	Select 6			o specific disciplines.		
ENG 340 or ENG 341 or ENG 350 or ENG 351 or HST 121* or HST 122* or ART 200 or MUS 241	Survey of English Literature I or Survey of English Literature II or Survey of American Literature II or Survey of American Literature II or Survey of the History of the U.S. to 1877* or Survey of the History of the U.S. since 1877* or Art in Context or The Language of Music *Satisfies the State of Missouri government requirement.	6		ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300° or HISTORY 1310° or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation 'Satisfies the State of Missouri government requirement.	6
			oral and Soci			
HST 103 or HST 104* or GRY 100 or PHI 110 or PHI 105 or PLS 101* or PSY 121 or ECO 165 or ECO 155 or Foreign Language	World History to Circa 1600 C.E. or World History since 1600 C.E.* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Democracy and Citizenship* or Introductory Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	hours fr	om at least tw	o specific disciplines. 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	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government*or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
	Hur	nanities	s, Arts, and S Select 3 hou	ocial Sciences		
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
	No free electives applied to the degree. Group 2 Major Requirements Group 1 Core Requirements Total Ho	0 42 30 urs 72			Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements Total Hours' *S&T advisor permission is required to transfer more than 68 credits toward the S&T Mechanical Engineering degree.	0 41 27 * 68

	Metallurgical Engin	eerin	g Gro	up 2 Major	Requirements	
	Missouri State University		Semester		Missouri S&T	
TCM 110 ENG 210 or ENG 310 or COM 115 or	Intro to Engineering Design Writing II: Writing Across the Disciplines or Writing II: Writing for Grad. and Prof. Schools or Fundamentals of Public Speaking or	3		MECH ENG 1720 ENGLISH 1160 or ENGLISH 3560 or	Intro to Engineering Design Writing and Research or Technical Writing or	3
ENG 221 or ENG 321	Writing II: Writing for the Professions or Writing II: Beginning Technical Writing			SPMS 1185 STAT 3115 or	Principles of Speech Applies to degree as Gen Ed Communication requirement. Engineering Statistics or	
MTH 545 or MTH 345*	Applied Statistics or Statistics for Scientists and Engineers*	3		STAT 3117*	Intro to Probability and Statistics* *Will be substituted for the STAT 3113/3115 requirement.	3
PHY 233	Engineering Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
TCM 273	Mechanics of Materials	3		CIV ENG 2210	Mechanics of Materials	3
CHM 160, 161	General Chemistry I and Lab	5		CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 170, 171	General Chemistry II and Lab	5		CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) "CHEM 1510 is not a degree requirement, transfers as general elective credit. Organic Chemistry I (3) or	3
CHM 342 or CHM 375 or CHM 506 or PHY 252 or GLG 332 or MTH 507 or PHY 375	Organic Chemistry I or Inorganic Chemistry I or Physical Chemistry I or Intro to Circuit Analysis or Mineralogy or Intro to Partial Differential Equations or Modern Physics	3		CHEM 2210 or CHEM 3310 or CHEM 3410 or ELEC ENG 2800 or GEOLOGY 2610 or MATH 5325 or PHYSICS 2305	Inorganic Chemistry I (3) or Chemical Thermodynamics I (3) or Electrical Circuits (3) or Mineralogy and Crystallography (3) or Partial Differential Equations (3) or Intro to Modern Physics (3) Not specifically required for the degree but satisfies out-of-department technical elective requirement	3
	From the options 6 hours Humanitie	s listed in e	each group be Arts from at le	eneral Education Requi clow, select 15 hours to in east two specific discipline n at least two specific disci	clude s and	
	*At least one course must be selected from HISTORY 1	1200, 1300,	1310, or POL	SCI 1200 to satisfy the	State of Missouri government requirement.	
	Select 6		nities and F	ine Arts o specific disciplines.		
ENG 340 or ENG 351 or ENG 351 or ENG 351 or HST 121* or HST 122* or ART 200 or MUS 241	Survey of English Literature I or Survey of English Literature II or Survey of American Literature II or Survey of American Literature II or Survey of the History of the U.S. to 1877* or Survey of the History of the U.S. since 1877* or Art in Context or The Language of Music "Satisfies the State of Missouri government requirement.	6		ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
			ral and Socia			
HST 103 or HST 104* or GRY 100 or PHI 110 or PHI 105 or PLS 101* or PSY 121 or ECO 165 or ECO 155 or Foreign Language	World History to Circa 1600 C.E. or World History since 1600 C.E.* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Democracy and Citizenship* or Introductory Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6		o specific disciplines. HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government*or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
	Н		Select 3 hour	ocial Sciences		
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.			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	3			Maximum Free Electives	3
	Group 2 Major Requirements	46			Group 2 Major Requirements	44
	Group 1 Core Requirements	30 ours 76			Group 1 Core Requirements Total Hours*	27
		-			*S&T advisor permission is required to transfer more than 68 credits toward the S&T Metallurgical Engineering degree.	

	Mining Enginee	ering (Group	2 Major Req	uirements		
	Missouri State University		Semester		Missouri S&T		
TCM 110 ENG 210 or ENG 310 or COM 115 or ENG 221 or ENG 321	Intro to Engineering Design Writing II: Writing Across the Disciplines or Writing II: Writing for Grad. and Prof. Schools or Fundamentals of Public Speaking or Writing II: Writing for the Professions or Writing II: Beginning Technical Writing	3		MECH ENG 1720 ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Intro to Engineering Design Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.		3
MTH 545 or MTH 345*	Applied Statistics or Statistics for Scientists and Engineers*	3		STAT 3115 or STAT 3117*	Engineering Statistics or Intro to Probability and Statistics* *Will be substituted for the STAT 3113/3115 requirement.		3
CHM 160, 161	General Chemistry I and Lab	5		CHEM 1310, 1319	General Chemistry I and Lab		5
PHY 233	Engineering Statics	3		CIV ENG 2200	Engineering Mechanics-Statics		3
PHY 333	Intermediate Mechanics	3		MECH ENG 2350	Engineering Mechanics-Dynamics		2
TCM 315	Thermodynamics and Heat Transfer	3		MECH ENG 2527	Thermal Analysis		3
TCM 273	Mechanics of Materials	3		CIV ENG 2210	Mechanics of Materials		3
GLG 110	Principles of Geology	4		GEOLOGY 1110	Physical and Environmental Geology		3
GLG 110				(GEO ENG 1150) eneral Education Requir			3
	6 hours Human	ities and Fine ral and Social Y 1200, 1300,	Arts from at le Sciences fron 1310, or POL	•	and lines.		
	Cala		nities and F	ine Arts o specific disciplines.			
ENG 340 or ENG 341 or ENG 350 or ENG 351 or HST 121* or HST 122* or ART 200 or MUS 241	Survey of English Literature I or Survey of English Literature II or Survey of American Literature II or Survey of American Literature II or Survey of the History of the U.S. to 1877* or Survey of the History of the U.S. since 1877* or Art in Context or The Language of Music *Satisfies the State of Missouri government requirement.	6	at loast we	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1800 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.		6
			ral and Socia				
HST 103 or HST 104* or GRY 100 or PHI 110 or PHI 105 or PLS 101* or PSY 121 or ECO 165 or ECO 155 or Foreign Language	World History to Circa 1600 C.E. or World History since 1600 C.E.* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Democracy and Citizenship* or Introductory Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	t 6 hours fro	m at least two	o specific disciplines. HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1105 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government*or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.		6
	No free electives applied to the degree. Group 2 Major Requirements Group 1 Core Requirements Tota	0 42 30 I Hours 72			Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements *S&T advisor permission is required to transfer more than 68 credits to Mining Engineering degree.	Total Hours* ward the S&T	0 40 27 67

	Nuclear Enginee	rina	Group	2 Maior Red	guirements	
		· · · · · · ·				
TOLI 110	Missouri State University		Semester		Missouri S&T	•
TCM 110	Intro to Engineering Design	3		MECH ENG 1720	Intro to Engineering Design	3
ENG 210 or ENG 310 or COM 115 or	Writing II: Writing Across the Disciplines or Writing II: Writing for Grad. and Prof. Schools or Fundamentals of Public Speaking or	3		ENGLISH 1160 or ENGLISH 3560 or	Writing and Research or Technical Writing or Principles of Speech	3
ENG 221 or ENG 321	Writing II: Writing for the Professions or Writing II: Beginning Technical Writing			SPMS 1185	Applies to degree as Gen Ed Communication requirement.	
CHM 160, 161	General Chemistry I and Lab	5		CHEM 1310, 1319	General Chemistry I and Lab	5
CSC 125	Intro to C++ Programming	4		COMP SCI 1971,1981	Intro to Programming Method and Lab (C++)	3
MTH 333 or	Linear Algebra or			MATH 3108 or	Linear Algebra or	
MTH 315 or	Algebraic Structures or	3		MATH 3109 or	Foundations of Mathematics or	3
MTH/CSC 421	Numerical Analysis			COMP SCI 3200	Intro to Numerical Methods	
PHY 233	Engineering Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
TCM 273	Mechanics of Materials	3		CIV ENG 2210	Mechanics of Materials	3
MTH 545 or	Applied Statistics or			STAT 3115 or	Engineering Statistics or	
MTH 345	Statistics for Scientists and Engineers	3		STAT 3117	Intro to Probability and Statistics	3
PHY 252	Intro to Circuit Analysis	3		ELEC ENG 2800	Electrical Circuits	3
PHY 375	Modern Physics	3		PHYSICS 2305	Intro to Modern Physics	3
	From the optior 6 hours Humaniti	ns listed in ies and Find al and Socia	each group be e Arts from at le al Sciences fron	eneral Education Requirelow, select 15 hours to include two specific disciplines at least two specific disciplines at least two specific disciplines SCI 1200 to satisfy the S	lude and lines.	
	At least one course must be selected from tho force			•	tate of missouri government requirement.	
	Salact		anities and F	specific disciplines.		
ENG 340 or	Survey of English Literature I or	o nours no	Jili at least two	ENGLISH 1211 or	British Literature I: The Beginnings to 1800 or	
ENG 340 or ENG 350 or ENG 351 or	Survey of English Literature II or Survey of American Literature II or Survey of American Literature II or			ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or	British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1605 to Present or	
HST 121* or	Survey of the History of the U.S. to 1877* or	6		HISTORY 1300* or	American History to 1877* or	6
HST 122* or	Survey of the History of the U.S. since 1877* or	U		HISTORY 1310* or	American History Since 1877* or	U
ART 200 or	Art in Context or			ART 1180 or	Art Appreciation or	
MUS 241	Art in Context of The Language of Music Satisfies the State of Missouri government requirement.			MUSIC 1150	Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	
			oral and Socia			
		6 hours fro	om at least two	specific disciplines.		
ECO 165 or ECO 155	Principles of Microeconomics or Principles of Macroeconomics	3		ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3
HST 103 or HST 104* or GRY 100 or PHI 110 or PHI 105 or PLS 101* or PSY 121 or Foreign Language	World History to Circa 1600 C.E. or World History since 1600 C.E.* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Democracy and Citizenship* or Introductory Psychology or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3		HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1115 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government*or General Psychology or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3
	н	umanities	s, Arts, and S e Select 3 hou	ocial Sciences s.		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, ar music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	t, 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			Maximum Free Electives	0
	Group 2 Major Requirements	48			Group 2 Major Requirements	47
	Group 1 Core Requirements	30			Group 1 Core Requirements	27
		Hours 78			Total Hours* *S&T advisor permission is required to transfer more than 69 credits toward the S&T	74

	Petroleum Engine	erin	g	Group 2 Major Re	equirements	
	Missouri State University			Semester	Missouri S&T	
ENG 210 or ENG 310 or COM 115 or ENG 221 or ENG 321	Writing II: Writing Across the Disciplines or Writing II: Writing for Grad. and Prof. Schools or Fundamen of Public Speaking or Writing II: Writing for the Professions or Writing II: Beginning Technical Writing	ntals 3	;	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHM 160, 161	General Chemistry I and Lab	5	i	CHEM 1310, 1319	General Chemistry I and Lab	5
CSC 131 or CSC 232 or CSC 125	Computational Thinking (4) or Data Structures (4) or Intro to C++ Programming (4)	3		COMP SCI 1500	Computational Problem Solving	3
CSC 335	Database System Concepts	3	1	COMP SCI 2300	File Structures and Intro to Database Systems	3
GLG 110	Principles of Geology	4		GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
PHY 233	Engineering Statics	3	}	CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 333	Intermediate Mechanics	3	,	MECH ENG 2350	Engineering Mechanics-Dynamics	2
TCM 273	Mechanics of Materials	3	•	CIV ENG 2210	Mechanics of Materials	3
TCM 315	Thermodynamics and Heat Transfer	3	,	MECH ENG 2527	Thermal Analysis	3
	Humanities, Arts, a	nd Soci	al S	Sciences General Education Requir	ements	
	6 hours Humanitie	es and Fi I and Soc 1200, 130	ne / ial \$ 00 ,		and lines.	
	Soloat 6			nities and Fine Arts at least two specific disciplines.		
ENG 340 or ENG 341 or ENG 350 or ENG 351 or HST 121* or HST 122* or ART 200 or MUS 241	Survey of English Literature I or Survey of English Literature II or Survey of American Literature II or Survey of American Literature II or Survey of the History of the U.S. to 1877* or Survey of the History of the U.S. since 1877* or Art in Context or The Language of Music "Satisfies the State of Missouri government requirement.	6	i	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
				al and Social Sciences		
HST 103 or HST 104* or GRY 100 or PHI 110 or PHI 105 or PLS 101* or PSY 121 or ECO 165 or ECO 155 or Foreign Language	Select (World History to Circa 1600 C.E. or World History since 1600 C.E.* or World Regional Geography or Intro to Philosophy or Critical Thinking or American Democracy and Citizenship* or Introductory Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6 hours f		n at least two specific disciplines. 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	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government*or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
	Hu	umanitie		Arts, and Social Sciences Select 3 hours.		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	t, 3	1	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
	No free electives applied to the degree.	0)		Maximum Free Electives	0
	Group 2 Major Requirements Group 1 Core Requirements Total H	45 30 Iours 75	0		Group 2 Major Requirements Group 1 Core Requirements Total Hours* *S&T advisor permission is required to transfer more than 69 credits toward the S&T Petroleum Engineering degree.	43 27 70