Westminster College — 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.

	Westminster College	<u>Semeste</u>	<u>r</u>	Missouri S&T	
MAT 124	Calculus I	5	MATH 1214	Calculus I Grade of C or better is required.	4
MAT 214	Calculus II	4	MATH 1215	Calculus II Grade of C or better is required.	4
MAT 224	Calculus III	4	MATH 2222	Calculus III Grade of C or better is required.	4
MAT 312	Differential Equations	3	MATH 3304	Elementary Differential Equations	3
PHY 201	Physics I	4	PHYSICS 1135	Engineering Physics I Grade of C or better is required.	4
PHY 212	Physics II	4	PHYSICS 2135	Engineering Physics II Grade of C or better is required.	4
ENG 105	Academic Writing I	3	ENGLISH 1120	Exposition and Argumentation	3
		Total Hours 27			Total Hours 26

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 En	gineering	Group 2 Major I	Requirements	
	Westminster College		Semester	Missouri S&T	
EGR 101	Intro to Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 106 or ENG 265 or SPE 101	Academic Writing II or Technical and Web Writing or Intro to Speech Communication	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 114, 115	General Chemistry I and Lab	4	CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
CSA 304	Structured Programming	4	COMP SCI 1971, 1981		3
PHY 328	Analog Circuits	3	ELEC ENG 2800	Electrical Circuits	3
MAT 215 or MAT 313	Linear Algebra or Mathematical Probability and Statistics	3	MATH 3108 or STAT 3115	Linear Algebra I or Engineering Statistics WII satisfy the Advanced Math/Comp Sci elective requirement.	3
PHL 212 or PHL244	Intro to Ethics Business Ethics or other engineering, business, bio, social ethics approved by advisor	3	PHILOS 1130 or PHILOS 3235	How Should I Live? An Introduction to Ethics or Business Ethics or other engineering, business, bio, social ethics approved by advisor	3
		s, Arts, and Social S	Sciences General Education Req		
	6 hours	Humanities and Fine A Behavioral and Social S HISTORY 1200, 1300, 1	· ·	es and ciplines.	
			nities and Fine Arts at least two specific disciplines.		
ENG 205 or ENG 206 or ENG 238 or ENG 239 or ENG 249 or HIS 103* or HIS 104*	Topics in British Literature to 1800 or British Literature since 1800 or American Literature to the Civil War or American Literature Since the Civil War or World Literature since 1800 or History of the United States to 1877* or History of the United States since 1877* 'Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310*	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present or American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* *Satisfies the State of Missouri government requirement.	6
	Cationics the Catio of missean government requirement.	Behaviora	al and Social Sciences	Salished the Galle of missearing of thinness requirements	
		Select 6 hours from	at least two specific disciplines.		
HIS 105 or HIS 106* or GOG 101 or PHL 101 or PHL 218 or POL 211* or PSY 112 or ECN 212 or ECN 211 or Foreign Language	Western Civilization I or Western Civilization II* or Intro to Geography or Intro to Philosophy through Film or Intro to Logic or American Government and Politics*or Psychology as a Natural Science 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
			Arts, and Social Sciences		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any histo theater, English and technical communication, philoso science, psychology, economics, etymology, or foreig	ory, art, music, ophy, political 3	Select 3 hours. HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music theater, English and technical communication, philosophy, politica science, psychology, economics, etymology, or foreign language.	
	No free electives applied to the degree.	0		Maximum Free Electives	0
	Group 2 Major Requirements Group 1 Core Requirements	38 27 Total Hours 65		Group 2 Major Requirements Group 1 Core Requirements Total Hour *S&T advisor permission is required to transfer more than 68 credits toward the S&T Aerospa Engineering degree.	

	Architectural E	ngineeri	ng Gro	up 2 Major	Requirements	
EGR 101	Westminster College Intro to Engineering Design	3	Semester	MECH ENG 1720	Missouri S&T Intro to Engineering Design	3
ENG 106 or ENG 265 or SPE 101	Academic Writing II or Technical and Web Writing or Intro to Speech Communication	3		ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as 6m Ed Communication requirement.	3
CHM 114, 115	General Chemistry I and Lab	4		CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
MAT 313	Mathematical Probability and Statistics	3		STAT 3115	Engineering Statistics* *Will be substituted for STAT 3113.	3
GEO 108	Intro to Physical Geology	4		GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
	6 hours	Humanities and Fir Behavioral and Social ISTORY 1200, 130	e Arts from at leal Sciences from 0, 1310, or POL	•	s and iplines.	
			nanities and F om at least two	ne Arts specific disciplines.		
ENG 205 or ENG 206 or ENG 238 or ENG 239 or ENG 249 or HIS 103* or HIS 104*	Topics in British Literature to 1800 or British Literature since 1800 or American Literature to the Civil War or American Literature Since the Civil War or World Literature since 1800 or History of the United States to 1877* or History of the United States since 1877* "Satisfies the State of Missouri government requirement.	6		ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310*	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present or American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* *Satisfies the State of Missouri government requirement.	6
			oral and Socia			
	Select 6 hor Western Civilization II*		o specific disc	iplines to include HISTC	PRY 1200. Modern Western Civilization*	
HIS 106*	*Satisfies the State of Missouri Government requirement.	3		HISTORY 1200*	*Satisfies the State of Missouri Government requirement.	3
PHL 101 or PHL 218 or POL 211* or PSY 112 or ECN 212 or ECN 211 or Foreign Language	Intro to Philosophy through Film or Intro to Logic or American Government and Politics*or Psychology as a Natural Science 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. Group 2 Major Requirements Group 1 Core Requirements	0 29 27 Total Hours 56			Maximum Free Electives 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 Architectural Engineering degree.	0 29 26 55

			ing-Biomanufa Requirements		
	Westminster College	Sem	ester	Missouri S&T	
SPE 101	Intro to Speech Communication	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHM 114, 115	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 124, 125	General Chemistry II (3) and Lab (1)	3	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2)	3
CHM 314 , 315	Organic Chemistry I and Lab	4	CHEM 2210, 2219	*CHEM 1510 is not a degree requirement, transfers as general elective credit. Organic Chemistry I and Lab	4
CHM 324, 325 or	Organic Chemistry II and Lab (4) or	7	CHEM 2220, 2229 or	Organic Chemistry II and Lab or	
BIO 114, 115 or BIO 301	Biological Processes and Lab (4) or Genetics (4)	4	BIO SCI 1213*, 1219 or BIO SCI 2223	Principles of Biology* and Lab or General Genetics Applies to degree as Track Elective.	4
BIO 325	Molecular Cell Biology	4	BIO SCI 2213, 2219	Cell Biology and Lab	4
CSA 304	Structured Programming	3	COMP SCI 1971,1981*	Intro to Programming Methodology and Lab* (C++) *Will be substituted for COMP SCI 1500.	3
	*At least one course must be selected from HIS	STORY 1200, 1300, 1310, Humanities	and Fine Arts		
		Select 6 hours from at lea	ast two specific disciplines.		
ENG 205 or ENG 206 or ENG 238 or ENG 239 or ENG 249 or HIS 103* or HIS 104*	Topics in British Literature to 1800 or British Literature since 1800 or American Literature to the Civil War or American Literature Since the Civil War or World Literature Since 1800 or History of the United States to 1877* or History of the United States since 1877* "Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310*	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present or American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* "Satisfies the State of Missouri government requirement.	6
			Social Sciences		
B			ific disciplines to include PHILO		
PHL 242	Biomedical Ethics	3	PHILOS 3223	Bioethics	3
HIS 105 or HIS 106* or GOG 101 or POL 211* or PSY 112 or ECN 212 or ECN 211or Foreign Language	Western Civilization I or Western Civilization II* or Intro to Geography or American Government and Politics*or Psychology as a Natural Science or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3
			and Social Sciences 3560 required.		
ENG 265	Technical and Web Writing	3	ENGLISH 3560	Technical Writing	3
	No free electives applied to the degree.	0		Maximum Free Electives	0
	Group 2 Major Requirements	40		Group 2 Major Requirements	41
	Group 1 Core Requirements	27 Total Hours 67		Group 1 Core Requirements	26 otal Hours* 67
				*S&T advisor permission is required to transfer more than 69 credit hours toward	

			ering-Biomate Requirements		
	Westminster College	Seme	ester	Missouri S&T	
SPE 101	Intro to Speech Communication	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHM 114, 115	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 124, 125	General Chemistry II (3) and Lab (1)	3	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 314 , 315	Organic Chemistry I and Lab	4	CHEM 2210, 2219*	Organic Chemistry I and Lab* *CHEM 2219 Lab applies to the degree as a Track Elective (non-engineering).	4
CHM 324, 325	Organic Chemistry II and Lab	4	CHEM 2220, 2229*	Organic Chemistry II and Lab* CHEM 2229 Lab applies to the degree as a Track Elective (non-engineering).	4
BIO 114, 115	Biological Processes and Lab	4	BIO SCI 1213*, 1219*	Principles of Biology and Lab* *Applies to degree as Track Elective (Non-engineering).	4
BIO 325	Molecular Cell Biology	4	BIO SCI 2213, 2219	Cell Biology and Lab	4
CSA 304	Structured Programming	3	COMP SCI 1971,1981*	Intro to Programming Methodology and Lab* (C++) *Will be substituted for COMP SCI 1500.	3
		ehavioral and Social Science	•	lines.	
		Select 6 hours from at least	st two specific disciplines.		
ENG 205 or ENG 206 or ENG 238 or ENG 239 or ENG 249 or HIS 103* or HIS 104*	Topics in British Literature to 1800 or British Literature since 1800 or American Literature to the Civil War or American Literature Since the Civil War or World Literature since 1800 or History of the United States to 1877* or History of the United States since 1877* 'Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1221 or HISTORY 1300* or HISTORY 1310*	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present or American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* *Satisfies the State of Missouri government requirement.	6
		Behavioral and			
PHL 242	Biomedical Ethics	Select 6 hours from at leas	st two specific disciplines. PHILOS 3223	Bioethics	3
PHL 242 HIS 105 or HIS 106* or GOG 101 or POL 211* or PSY 112 or ECN 212 or ECN 211or Foreign Language	Western Civilization I or Western Civilization II* or Intro to Geography or American Government and Politics*or Psychology as a Natural Science or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3
		Humanities, Arts, a ENGLISH 35			
ENG 265	Technical and Web 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	44 27 Total Hours 71		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 Biomedica Engineering degree.	

	Ceramic Enç	jineering	Group	2 Major Re	equirements	
EGR 101	Westminster College Intro to Engineering Design	3	Semester	MECH ENG 1720	Missouri S&T Intro to Engineering Design	3
ENG 106 or ENG 265 or SPE 101	Academic Writing II or Technical and Web Writing or Intro to Speech Communication	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 114, 115	General Chemistry I and Lab	4		CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 124	General Chemistry II	3		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 314 , 315	Organic Chemistry I and Lab	4		CHEM 2210, 2219*	Organic Chemistry (3) and Lab* (1) Salssfess the advanced chemistry elective requirement. 'The lab is not a degree requirement marsfers as general elective credit.	3
MAT 313	Mathematical Probability and Statistics	3		STAT 3115	Engineering Statistics or any statistics occurse 3000-level or higher. Satisfies statistics elective requirement.	3
PHY 223	Physics III	3		PHYS 2305	Intro to Modern Physics	3
	From t 6 hours	he options listed in Humanities and Fin Behavioral and Socia HSTORY 1200, 1300	each group be e Arts from at le al Sciences fron 0, 1310, or POL	•	nclude es and ciplines.	
			anities and F	ine Arts specific disciplines.		
ENG 205 or ENG 206 or ENG 238 or ENG 239 or ENG 249 or HIS 103* or HIS 104*	Topics in British Literature to 1800 or British Literature since 1800 or American Literature to the Civil War or American Literature Since the Civil War or World Literature since 1800 or History of the United States to 1877* 'Satisfies the State of Missouri government.	6	om at least (we	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1223 or HISTORY 1300* or HISTORY 1310*	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present or American Literature: 1800 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* *Satisfes the State of Missourj government requirement.	6
			oral and Socia			
HIS 105 or HIS 106* or GOG 101 or PHL 101 or PHL 218 or POL 211* or PSY 112 or ECN 212 or ECN 211or Foreign Language	Western Civilization I or Western Civilization II* or Intro to Geography or Intro to Poliosophy through Film or Intro to Logic or American Government and Politics*or Psychology as a Natural Science or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missourj government requirement.	Select 6 hours fro	at least two	specific disciplines. HISTORY 1100 or HISTORY 2100* or HISTORY 2110 or PHILOS 1105 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 *statisfies the State of Missouri government requirement.	6
		Humanities	s, Arts, and So Select 3 hour	ocial Sciences		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any histo theater, English and technical communication, philoso science, psychology, economics, etymology, or foreig	ophy, political 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	0 38 27 Total Hours 65			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 38 26 64

	(Chemical Enginee		gineering or emical Engine	ering Emphasis	
	Gr	oup 2 Major	Requirements		
EGR 101	Westminster College Intro to Engineering Design	Seme 3	•	Missouri S&T Intro to Engineering Design	3
SPE 101	Intro to Speech Communication	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHM 114, 115	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 124	General Chemistry II	3	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 314 , 315	Organic Chemistry I and Lab	4	CHEM 2210, 2219*	Organic Chemistry I and Lab* "CHEM 2210 is a degree requirement. CHEM 2219 applies to the degree as 1 of 9 required science elective credits See note below.	4
CHM 324 or CHM 334,335 or BIO 325,206	Organic Chemistry II (3) or Analytical Chemistry I (3) and Lab (1) or Molecular Cell Biology (4) and Lab Instruction Technique Select up to 8 hours from these options.	es (1) 8	CHEM 2220 or CHEM 2510 or BIO SCI 2213, 2219	Organic Chemistry II (3) or Analytical Chemistry (4) or Cell Biology and Lab (4) Applies to the degree as required science elective credits. Select up to 9 hours from these options or CHEM 2219 Organic Chemistry Lab.	8
CSA 304	Structured Programming	3	COMP SCI 1971,1981*	Intro to Programming Methodology and Lab* (C++) *Will be substituted for COMP SCI 1500.	3
MAT 313	Mathematical Probability and Statistics	3	STAT 3115	Engineering Statistics* *Will be substituted for STAT 3113.	3
	6 hours H	umanities and Fine Arts from havioral and Social Science	up below, select 15 hours to incl m at least two specific disciplines s from at least two specific discip r POL SCI 1200 to satisfy the Si	and lines.	
	,	Humanities a Select 6 hours from at lea	and Fine Arts st two specific disciplines.		
ENG 205 or ENG 206 or ENG 238 or ENG 239 or ENG 249 or HIS 103* or HIS 104*	Topics in British Literature to 1800 or British Literature since 1800 or American Literature to the Civil War or American Literature Since the Civil War or World Literature since 1800 or History of the United States to 1877* or History of the United States since 1877* Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310*	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present or American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* *Satisfies the State of Missouri government requirement.	6
		Behavioral and			
HIS 105 or HIS 106* or GOG 101 or PHL 101 or PHL 218 or POL 211* or PSY 112 or ECN 212 or ECN 211or Foreign Language	Western Civilization I or Western Civilization II* or Intro to Geography or Intro to Philosophy through Film or Intro to Logic or American Government and Politics*or Psychology as a Natural Science or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language "Satisfies the State of Missouri government requirement.	6	st 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
		Humanities, Arts, a ENGLISH 35			
ENG 265	Technical and Web Writing	3	ENGLISH 3560	Technical Writing	3
	No free electives applied to the degree. Group 2 Major Requirements Group 1 Core Requirements	0 46 27 Total Hours 73		Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements Total Hours *SAT advisor permission is required to transfer more than 68 credits toward the SAT Chemical Engineering degree.	

	Civil Engine	eering Group	2 Major Req	uirements	
EGR 101	Westminster College Intro to Engineering Design	Seme 3	ester MECH ENG 1720	Missouri S&T Intro to Engineering Design	3
ENG 106 or ENG 265 or SPE 101	Academic Writing II or Technical and Web Writing or Intro to Speech Communication	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as 6en Ed Communication requirement.	3
CHM 114, 115	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
GEO 108	Intro to Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
MAT 313	Mathematical Probability and Statistics	3	STAT 3115	Engineering Statistics* *Will be substituted for STAT 3113.	3
	From the 6 hours h	e options listed in each gro Humanities and Fine Arts fror ehavioral and Social Science	es General Education Requipe below, select 15 hours to in at least two specific discipline as from at least two specific disc	iclude s and iplines.	
	At least one course must be selected from the	Humanities a	•	otate of missouri government requirement.	
		Select 6 hours from at least			
ENG 205 or ENG 206 or ENG 238 or ENG 239 or ENG 249 or HIS 103* or HIS 104*	Topics in British Literature to 1800 or British Literature since 1800 or American Literature to the Civil War or American Literature Since the Civil War or World Literature since 1800 or History of the United States to 1877* or History of the United States since 1877* Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310*	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present or American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* *Satisfies the State of Missouri government requirement.	6
		Behavioral and	Social Sciences		
HIS 105 or HIS 106* or GOG 101 or PHL 101 or PHL 218 or POL 211* or PSY 112 or	Western Civilization I or Western Civilization II* or Intro to Geography or Intro to Philosophy through Film or Intro to Logic or American Government and Politics*or Psychology as a Natural Science or	Select 6 hours from at least	st two specific disciplines. HISTORY 1100 or HISTORY 2200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or	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	6
ECN 212 or ECN 211or Foreign Language	Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.		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.	
		Humanities, Arts, a Select 3			
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history theater, English and technical communication, philosop science, psychology, economics, etymology, or foreign	hy, political 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	32 27 Total Hours 59		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.	32 26 58

	Computer E	ngineering	Group 2 Major F	Requirements	
	Westminster College		Semester	Missouri S&T	
SPE 101	Intro to Speech Communication	3	SPMS 1185	Principles of Speech	3
	·			Applies to degree as Gen Ed Communication requirement.	
CHM 114, 115 CSA 304	General Chemistry I and Lab Structured Programming	4 3	CHEM 1310, 1319 COMP SCI 1500	General Chemistry I and Lab Computational Problem Solving	5 3
PHY 223 or CHM 314 or BIO 325 or BIO 301	Physics III (3) or Organic Chemistry I (3) or Molecular Cell Biology (4) or Genetics (4)	3	PHYSICS 2305 or CHEM 2210 or BIO SCI 2213 or BIO SCI 2223	Intro to Modern Physics (3) or Organic Chemistry I (3) or Cell Biology (3) or General Genetics (3) Satsfies a required engineering/science elective.	3
PHY 328	Analog Circuits	3	ELEC ENG 2100*, 210	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.	or 4
MAT 215 or MAT 331	Linear Algebra or Mathematics Seminar	3	MATH 3108 or MATH 3109	Linear Algebra or Foundations of Mathematics Will satisfy a required math elective.	3
MAT 313	Mathematical Probability and Statistics	3	STAT 3115	Engineering Statistics Will be substituted for STAT 3117.	3
	Fron 6 hou 6 hou	n the options listed in eaurs Humanities and Fine is Behavioral and Social is	Sciences General Education Req ach group below, select 15 hours to Arts from at least two specific disciplin Sciences from at least two specific dis	juirements include nes and sciplines.	
	*At least one course must be selected from		•	e State of Missouri government requirement.	
			nities and Fine Arts n at least two specific disciplines.		
ENG 205 or ENG 206 or ENG 238 or ENG 239 or ENG 249 or HIS 103* or HIS 104*	Topics in British Literature to 1800 or British Literature since 1800 or American Literature to the Civil War or American Literature Since the Civil War or World Literature since 1800 or History of the United States to 1877* or History of the United States since 1877* *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310*	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present or American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History to 1877* *Satisfies the State of Missouri government requirement.	6
			al and Social Sciences		
HIS 105 or HIS 106* or GOG 101 or PHL 101 or PHL 218 or POL 211* or PSY 112 or ECN 212 or ECN 211or Foreign Language	Western Civilization I or Western Civilization II* or Intro to Geography or Intro to Philosophy through Film or Intro to Logic or American Government and Politics*or Psychology as a Natural Science or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missourj government requirement.	Select 6 hours fron	n at least two specific disciplines. HISTORY 1100 or HISTORY 2100* 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
			Arts, and Social Sciences	•	
ENG 106 or ENG 265	Academic Writing II or Technical and Web Writing	3	Select 3 hours. ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
Electives	Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements	3 40 27 Total Hours 67	Electives	Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements Total Hour: *S&T advisor permission is required to transfer more than 68 credits toward the S&T Compute Engineering degree.	

	Electrical En	gineering	Group	2 Major Re	quirements	
	Westminster College		Semester		Missouri S&T	
EGR 101	Intro to Engineering Design	3		MECH ENG 1720	Intro to Engineering Design	3
SPE 101	Intro to Speech Communication	3		SPMS 1185	Principles of Speech	3
CHM 114, 115	General Chemistry I and Lab	4		CHEM 1310, 1319	Applies to degree as Gen Ed Communication requirement. General Chemistry I and Lab	5
CSA 304	Structured Programming	3		COMP SCI 1500	Computational Problem Solving	3
PHY 223 or	Physics III (3) or	Ţ.		PHYSICS 2305 or	Intro to Modern Physics (3) or	Ŭ
CHM 314 or	Organic Chemistry I (3) or	3		CHEM 2210 or	Organic Chemistry I (3) or	3
BIO 325 or	Molecular Cell Biology (4) or	3		BIO SCI 2213 or	Cell Biology (3) or	3
BIO 301	Genetics (4)			BIO SCI 2223	General Genetics (3)	
PHY 328	Analog Circuits	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 261	Linear Algebra	3		MATH 3108	Linear Algebra	3
MAT 313	Mathematical Probability and Statistics	3		STAT 3115	Engineering Statistics Will be substituted for STAT 3117.	3
	6 hours	Humanities and Fine Behavioral and Social HSTORY 1200, 1300,	Arts from at le Sciences from	•	nd nes.	
				specific disciplines.		
ENG 205 or	Topics in British Literature to 1800 or	Coloot o Hould Hol	ii at loadt two	ENGLISH 1211 or	British Literature I: The Beginnings to 1800 or	
ENG 206 or	British Literature since 1800 or			ENGLISH 1212 or	British Literature II: 1800 to Present or	
ENG 238 or	American Literature to the Civil War or			ENGLISH 1221 or	American Literature: 1600 to 1865 or	
ENG 239 or ENG 249 or	American Literature Since the Civil War or	6		ENGLISH 1222 or ENGLISH 1231 or	American Literature: 1865 to Present or	6
HIS 103* or	World Literature since 1800 or History of the United States to 1877* or			HISTORY 1300* or	World Literature I: Beginnings to the Renaissance or American History to 1877* or	
HIS 104*	History of the United States since 1877* *Satisfies the State of Missouri government requirement.			HISTORY 1310*	American History Since 1877* *Satisfies the State of Missouri government requirement.	
			al and Socia		<u> </u>	
HIS 105 or	Western Civilization I or	Select 6 hours from	n at least two	specific disciplines. HISTORY 1100 or	Early Western Civilization or	
HIS 105 or	Western Civilization II* or			HISTORY 1200* or	Modern Western Civilization* or	
GOG 101 or	Intro to Geography or			HISTORY 2110 or	World Regional Geography or	
PHL 101 or	Intro to Philosophy through Film or			PHILOS 1105 or	Self and World: Intro to Philosophy or	
PHL 218 or	Intro to Logic or			PHILOS 1115 or	Logic and Reasoning: An Introduction or	•
POL 211* or PSY 112 or	American Government and Politics*or Psychology as a Natural Science or	6		POL SCI 1200* or PSYCH 1101 or	American Government*or General Psychology or	6
ECN 212 or	Principles of Microeconomics or			ECON 1100 or	Principles of Microeconomics or	
ECN 211or	Principles of Macroeconomics or			ECON 1200 or	Principles of Macroeconomics or	
Foreign Language	Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.			Foreign Language	Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	
			Arts, and So Select 3 hour	ocial Sciences		
ENG 106 or	Academic Writing II or		Colour o Hour	ENGLISH 1160 or	Writing and Research or	
ENG 265	Technical and Web Writing	3		ENGLISH 3560	Technical Writing	3
Electives	Maximum Free Electives	6		Electives	Maximum Free Electives	6
	Group 2 Major Requirements Group 1 Core Requirements	46 27			Group 2 Major Requirements Group 1 Core Requirements	48 26
	Group i Core Requirements	Total Hours 73			Total Hours*	26 74
		TOTAL FIGURE 13			*S&T advisor permission is required to transfer more than 68 credits toward the S&T Electrical Engineering degree.	

	Engineering M	anagement	Group 2 Major F	Requirements		
	Westminster College	Se	mester	Missouri S&T		
EGR 101	Intro to Engineering Design	3	MECH ENG 1720	Intro to Engineering Design		3
SPE 101	Intro to Speech Communication	3	SPMS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.		3
CHM 114, 115	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab		5
CSA 304	Structured Programming	3	COMP SCI 1971, 1981	Intro to Programming Method and Lab (C++)		3
PHY 328 MAT 313	Analog Circuits Mathematical Probability and Statistics	3	ELEC ENG 2800 STAT 3115	Electrical Circuits		3
WATSIS	·	<u>-</u>	ences General Education Require	Engineering Statistics		3
	From 6 hou	the options listed in each rs Humanities and Fine Arts Behavioral and Social Scie	group below, select 15 hours to inclu from at least two specific disciplines a nces from at least two specific discipl	ide and nes.		
			es and Fine Arts			
		Select 6 hours from at	least two specific disciplines.			
ENG 205 or ENG 206 or ENG 238 or ENG 239 or ENG 249 or HIS 103* or HIS 104*	Topics in British Literature to 1800 or British Literature since 1800 or American Literature to the Civil War or American Literature Since the Civil War or World Literature since 1800 or History of the United States to 1877* or History of the United States since 1877* "Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310*	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present or American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* *Satisfies the State of Missouri government requirement.		6
		Behavioral a	nd Social Sciences	•		
	Select 6	hours from at least two sp	ecific disciplines to include PSYCH	1101.		
PSY 112	Psychology as a Natural Science	3	PSYCH 1101	General Psychology Required		3
HIS 105 or HIS 106* or GOG 101 or PHL 101 or PHL 218 or POL 211* or ECN 212 or ECN 211or Foreign Language	Western Civilization I or Western Civilization II* or Intro to Geography or Intro to Philosophy through Film or Intro to Logic or American Government and Politics* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government*or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.		3
			s, and Social Sciences			
		Sele	ct 3 hours.			
ENG 106 or ENG 265	Academic Writing II or Technical and Web 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	34		Group 2 Major Requirements		35
	Group 1 Core Requirements	27 Total Hours 61		Group 1 Core Requirements *S&T advisor permission is required to transfer more than 61 credits toward to Engineering Management degree.	Total Hours* ne S&T	26 61

	Environmental	Engineering	Group 2 Major	Requirements	
	Westminster College		<u>iester</u>	Missouri S&T	
EGR 101 ENG 106 or ENG 265 or SPE 101	Intro to Engineering Design Academic Writing II or Technical and Web Writing or Intro to Speech Communication	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
GEO 108	Intro to Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
CHM 114, 115	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 124	General Chemistry II	3	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 114, 115	Biological Processes and Lab	4	BIO SCI 1113, 1219*	Principles of Biology (3) and Lab* (1) *The lab is not a degree requirement, transfers as general elective credit.	3
MAT 313	Mathematical Probability and Statistics	3	STAT 3115	Engineering Statistics* *Will be substituted for STAT 3113.	3
	6 hours	s Humanities and Fine Arts from Behavioral and Social Science HISTORY 1200, 1300, 1310,	•	and blines.	
			and Fine Arts ast two specific disciplines.		
ENG 205 or ENG 206 or ENG 238 or ENG 239 or ENG 249 or HIS 103* or HIS 104*	Topics in British Literature to 1800 or British Literature since 1800 or American Literature to the Civil War or American Literature Since the Civil War or World Literature since 1800 or History of the United States to 1877* or History of the United States since 1877* 'satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300° or HISTORY 1310°	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present or American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* *Satisfies the State of Missouri government requirement.	6
			Social Sciences		
		ours from at least two speci	fic disciplines to include HISTO		
HIS 106*	Western Civilization II* *Satisfies the State of Missouri Government requirement.	3	HISTORY 1200*	Modern Western Civilization* *Satisfies the State of Missouri Government requirement.	3
PHL 101 or PHL 218 or POL 211* or PSY 112 or ECN 212 or ECN 211 or Foreign Language	Intro to Philosophy through Film or Intro to Logic or American Government and Politics*or Psychology as a Natural Science or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language "Satisfies the State of Miscouri government requirement.	3	PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSVCH 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 Group 1 Core Requirements	36 27 Total Hours 63		Group 2 Major Requirements Group 1 Core Requirements Total Hour *S&T advisor permission is required to transfer more than 69 credits toward the S&T Environmental Engineering degree.	35 26 rs* 61

	Geological En	gineering G	Group 2 Major Re	equirements	
Westminster College		Se	mester	Missouri S&T	
EGR 101	Intro to Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 265	Technical and Web Writing	3	ENGLISH 3560	Technical Writing	3
CHM 114, 115	General Chemistry I and Lab	4	CHEM 1310, 1319	Applies to degree as Gen Ed Communication requirement. General Chemistry I and Lab	5
CSA 304	Structured Programming	3	COMP SCI 1971, 1981	Intro to Programming Method and Lab (C++)	3
GEO 108	Intro to Physical Geology	4	GEO ENG 1150 (GEOLOGY 1110)	Physical and Environmental Geology	3
MAT 313	Mathematical Probability and Statistics	3	STAT 3115	Engineering Statistics Applies to the degree as a required statistics elective.	3
	Humanities	, Arts, and Social Scie	nces General Education Require		
	6 hours	Humanities and Fine Arts dehavioral and Social Scient ISTORY 1200, 1300, 1310	group below, select 15 hours to incle from at least two specific disciplines a neces from at least two specific discipling, or POL SCI 1200 to satisfy the St is and Fine Arts	and ines.	
			least two specific disciplines.		
ENG 205 or ENG 206 or ENG 238 or ENG 239 or ENG 249 or HIS 103* or HIS 104*	Topics in British Literature to 1800 or British Literature since 1800 or American Literature to the Civil War or American Literature Since the Civil War or World Literature since 1800 or History of the United States to 1877* or History of the United States since 1877* Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300° or HISTORY 1310°	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present or American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* *Satisfies the State of Missouri government requirement.	6
		Behavioral ar	nd Social Sciences		
		Select 6 hours from at	least two specific disciplines.		
HIS 105 or HIS 106* or GOG 101 or PHL 101 or PHL 218 or POL 211* or PSY 112 or ECN 212 or ECN 211 or Foreign Language	Western Civilization I or Western Civilization II* or Intro to Geography or Intro to Philosophy through Film or Intro to Logic or American Government and Politics*or Psychology as a Natural Science 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
			s, and Social Sciences ct 3 hours.		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any histor theater, English and technical communication, philosop science, psychology, economics, etymology, or foreign	phy, political 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	0 35 27 Total Hours 62		Maximum Free Electives 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.	0 35 26 61

	Masterinator Callaga	Com		Missauri COT	
EGR 101	Westminster College Intro to Engineering Design	Sem 3	MECH ENG 1720	Missouri S&T Intro to Engineering Design	3
ENG 106 or ENG 265 or SPE 101	Academic Writing II or Technical and Web Writing or Intro to Speech Communication	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 114, 115	General Chemistry I and Lab	4	CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
CSA 304 PHY 328	Structured Programming Analog Circuits	3	COMP SCI 1971, 1981 ELEC ENG 2800	Intro to Programming Method and Lab (C++) Electrical Circuits	3
MAT 215 or MAT 313	Linear Algebra or Mathematical Probability and Statistics	3	MATH 3108 or STAT 3115	Linear Algebra I or Engineering Statistics Satisfies the Advanced Math/Statistics elective requirement.	3
	From the 6 hours Hu	options listed in each gramanities and Fine Arts fravioral and Social Science (FORY 1200, 1300, 1310,	•	ude and ines.	
	S		and Fine Arts east two specific disciplines.		
ENG 205 or ENG 206 or ENG 238 or ENG 239 or ENG 249 or HIS 103* or HIS 104*	Topics in British Literature to 1800 or British Literature since 1800 or American Literature to the Civil War or American Literature Since the Civil War or World Literature since 1800 or History of the United States to 1877* or History of the United States since 1877* Statisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310*	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present or American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* *Satisfies the State of Missouri government requirement.	6
	_		d Social Sciences		
HIS 105 or HIS 106* or GOG 101 or PHL 218 or POL 211* or PSY 112 or ECN 212 or Foreign Language	Western Civilization I or Western Civilization II* or Intro to Geography or Intro to Philosophy through Film or Intro to Logic or American Government and Politics*or Psychology as a Natural Science or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	ast 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
			and Social Sciences 3 hours.		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, theater, English and technical communication, philosoph science, psychology, economics, etymology, or foreign la	art, music, y, political 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	0 34 27 Total Hours 61		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 35 26 61

	Metallurgical E	ngineerin	ng Gro	up 2 Major	Requirements	
	Westminster College		Semester		Missouri S&T	
EGR 101	Intro to Engineering Design	3		MECH ENG 1720	Intro to Engineering Design	3
ENG 106 or ENG 265 or SPE 101	Academic Writing II or Technical and Web Writing or Intro to Speech Communication	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
MAT 313 CHM 114, 115	Mathematical Probability and Statistics General Chemistry I and Lab	3		STAT 3115 CHEM 1310, 1319	Engineering Statistics General Chemistry I and Lab	3 5
CHM 124	General Chemistry II	3		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 314 or CHM 424 or PHY 328 or PHY 223	Organic Chemistry I or Physical Chemistry I or Analog Circuits or Physics III	3		CHEM 2210 or CHEM 3410 or EE 2800 or PHYSICS 2305	Organic Chemistry I (3) or Chemical Thermodynamics I (3) or Electrical Circuits (3) or Intro to Modern Physics (3) Not specifically required for the degree but will satisfy out-of-department technical elective requirement	3
	Humaniti	es, Arts, and Socia	l Sciences Ge	neral Education Requ	irements	
	6 hour	s Humanities and Fine Behavioral and Socia	e Arts from at lead I Sciences from	low, select 15 hours to in ast two specific discipline at least two specific disc SCI 1200 to seriefy the	es and ciplines.	
	At least one course must be selected from		anities and Fi	•	State of Missouri government requirement.	
				specific disciplines.		
ENG 205 or ENG 206 or ENG 238 or ENG 239 or ENG 249 or HIS 103* or HIS 104*	Topics in British Literature to 1800 or British Literature since 1800 or American Literature to the Civil War or American Literature Since the Civil War or World Literature since 1800 or History of the United States to 1877* or History of the United States since 1877*	6		ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310*	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present or American Literature: 1800 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877*	6
	*Satisfies the State of Missouri government requirement.	Rehavio	ral and Socia	Sciences	*Satisfies the State of Missouri government requirement.	
				specific disciplines.		
HIS 105 or HIS 106* or GOG 101 or PHL 101 or PHL 218 or POL 211* or PSY 112 or ECN 212 or ECN 211 or Foreign Language	Western Civilization I or Western Civilization II* or Intro to Geography or Intro to Philosophy through Film or Intro to Logic or American Government and Politics*or Psychology as a Natural Science 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 So Select 3 hours			
HASS Elective	Humanities, Arts, Social Sciences Elective: Any hist theater, English and technical communication, philos science, psychology, economics, etymology, or forei	ophy, political 3	Colour o Hour	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 Group 2 Major Requirements Group 1 Core Requirements	3 37 27 Total Hours 64			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 Metallurgical Engineering degree.	3 38 26 64

	Mining Eng	ineering Groເ	ıp 2 Major Re	quirements	
	Westminster College	Seme	ester	Missouri S&T	
EGR 101	Intro to Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 106 or	Academic Writing II or		ENGLISH 1160 or	Writing and Research or	
ENG 265 or	Technical and Web Writing or	3	ENGLISH 3560 or	Technical Writing or	3
SPE 101	Intro to Speech Communication		SPMS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	
MAT 313	Mathematical Probability and Statistics	3	STAT 3115	Engineering Statistics	3
CHM 114, 115	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
GEO 108	Intro to Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
	Humanitio	es, Arts, and Social Science	es General Education Requ	irements	
			up below, select 12 hours to ir		
			m at least two specific discipline		
			s from at least two specific disc		
	*At least one course must be selected from			State of Missouri government requirement.	
		Humanities a			
ENG 005	T : : D :: 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Select 6 hours from at least		Dividing to 1 To Day 1 to 4000	
ENG 205 or ENG 206 or	Topics in British Literature to 1800 or British Literature since 1800 or		ENGLISH 1211 or ENGLISH 1212 or	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present or	
ENG 238 or	American Literature to the Civil War or		ENGLISH 1212 or	American Literature: 1600 to 1865 or	
ENG 239 or	American Literature Since the Civil War or		ENGLISH 1222 or	American Literature: 1865 to Present or	
ENG 249 or	World Literature since 1800 or	6	ENGLISH 1231 or	World Literature I: Beginnings to the Renaissance or	6
HIS 103* or	History of the United States to 1877* or		HISTORY 1300* or	American History to 1877* or	
HIS 104*	History of the United States since 1877*		HISTORY 1310*	American History Since 1877*	
	*Satisfies the State of Missouri government requirement.			*Satisfies the State of Missouri government requirement.	
		Behavioral and Select 6 hours from at least			
HIS 105 or	Western Civilization I or		HISTORY 1100 or	Early Western Civilization or	
HIS 106* or	Western Civilization II* or		HISTORY 1200* or	Modern Western Civilization* or	
GOG 101 or	Intro to Geography or		HISTORY 2110 or	World Regional Geography or	
PHL 101 or	Intro to Philosophy through Film or		PHILOS 1105 or	Self and World: Intro to Philosophy or	
PHL 218 or	Intro to Logic or	•	PHILOS 1115 or	Logic and Reasoning: An Introduction or	
POL 211* or PSY 112 or	American Government and Politics*or	6	POL SCI 1200* or	American Government*or	6
ECN 212 or	Psychology as a Natural Science or Principles of Microeconomics or		PSYCH 1101 or ECON 1100 or	General Psychology or Principles of Microeconomics or	
ECN 212 of ECN 211or	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	
5 5 5	*Satisfies the State of Missouri government requirement.		3 3 3	*Satisfies the State of Missouri government requirement.	
	No free electives applied to the degree.	0		Maximum Free Electives	0
	Group 2 Major Requirements	29		Group 2 Major Requirements	29
	Group 1 Core Requirements	27		Group 1 Core Requirements	26
		Total Hours 56		Total Hour: "S&T advisor permission is required to transfer more than 68 credits toward the S&T Mining Engineering degree.	s* 55

	Nuclear Engi	neering Gro	oup 2 Major Rec	quirements	
	Westminster College	Sen	nester	Missouri S&T	
EGR 101	Intro to Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 106 or ENG 265 or SPE 101	Academic Writing II or Technical and Web Writing or Intro to Speech Communication	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 114, 115	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CSA 304	Structured Programming	3	COMP SCI 1971, 1981	Intro to Programming Method and Lab (C++)	3
MAT 215 or	Linear Algebra or	3	MATH 3108 or	Linear Algebra or	3
MAT 331	Mathematics Seminar	3	MATH 3109	Foundations of Mathematics	3
MAT 313	Mathematical Probability and Statistics	3	STAT 3115	Engineering Statistics	3
PHY 328	Analog Circuits	3	EE 2800	Electrical Circuits	3
PHY 223	Physics III	3	PHYSICS 2305	Intro to Modern Physics	3
	Humanities	, Arts, and Social Scier	nces General Education Require	ements	
	6 hours	Humanities and Fine Arts fi ehavioral and Social Scien	roup below, select 15 hours to incl rom at least two specific disciplines ces from at least two specific discipl or POL SCI 1200 to satisfy the St	and lines.	
		Humanities	and Fine Arts		
			east two specific disciplines.		
ENG 205 or ENG 206 or ENG 238 or ENG 239 or ENG 249 or HIS 103* or HIS 104*	Topics in British Literature to 1800 or British Literature since 1800 or American Literature to the Civil War or American Literature Since the Civil War or World Literature since 1800 or History of the United States to 1877* or History of the United States since 1877* "Satisfies the State of Missourj government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310*	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present or American Literature: 1805 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* *Satisfies the State of Missouri government requirement.	6
			d Social Sciences east two specific disciplines.		
ECON 212 or	Principles of Microeconomics or		ECON 1100 or	Principles of Microeconomics or	_
ECON 211	Principles of Macroeconomics	3	ECON 1200	Principles of Macroeconomics	3
HIS 105 or HIS 106* or GOG 101 or PHL 101 or PHL 218 or POL 211* or PSY 112 or Foreign Language	Western Civilization I or Western Civilization II* or Intro to Geography or Intro to Philosophy through Film or Intro to Logic or American Government and Politics*or Psychology as a Natural Science or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 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
			and Social Sciences t 3 hours.		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any histor theater, English and technical communication, philosol science, psychology, economics, etymology, or foreign	y, art, music, ohy, political 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	40		Group 2 Major Requirements	41
	Group 1 Core Requirements	27 Total Hours 67		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 Nuclear Engineering degree.	26

	Petroleum Eng	ineering Gr	oup 2 Major R	equirements	
	Westminster College	Seme	ester_	Missouri S&T	
ENG 106 or ENG 265 or SPE 101	Academic Writing II or Technical and Web Writing or Intro to Speech Communication	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as 6en Ed Communication requirement.	3
CHM 114, 115	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CSA 304	Structured Programming	3	COMP SCI 1500	Computational Problem Solving	3
GEO 108	Intro to Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
	From the 6 hours H	options listed in each gro lumanities and Fine Arts fror havioral and Social Science	es General Education Requi up below, select 15 hours to in m at least two specific discipline s from at least two specific disci r POL SCI 1200 to satisfy the	clude s and iplines.	
		Humanities a Select 6 hours from at leas			
ENG 205 or ENG 206 or ENG 238 or ENG 239 or ENG 249 or HIS 103* or HIS 104*	Topics in British Literature to 1800 or British Literature since 1800 or American Literature to the Civil War or American Literature Since the Civil War or World Literature since 1800 or History of the United States to 1877* or History of the United States since 1877* *Satisfes the State of Missourj government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310*	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present or American Literature: 1800 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* *Satisfies the State of Missouri government requirement.	6
		Behavioral and			
HIS 105 or HIS 106* or GOG 101 or PHL 101 or PHC 218 or POL 211* or PSY 112 or ECN 212 or ECN 211or Foreign Language	Western Civilization I or Western Civilization II* or Intro to Geography or Intro to Philosophy through Film or Intro to Logic or American Government and Politics*or Psychology as a Natural Science or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language "Satisfies the State of Missouri government requirement.	Select 6 hours from at leas	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, an Select 3			
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history theater, English and technical communication, philosoph science, psychology, economics, etymology, or foreign	ny, political 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	29 27 Total Hours 56		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.	29 26 55