## Southwestern Illinois 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.

	Southwestern Illinois College		Semester		Missouri S&T		1
MATH 203 and MATH 204	Analytical Geometry and Calculus I and Analytical Geometry and Calculus II Both SWIC MATH 203 and 204 are required to receive credit for both MATH 1214 and 1215	10		MATH 1214 and MATH 1215	Calculus for Engineers I and Calculus for Engineering II Grade of C or better is required.		8
MATH 205	Analytical Geometry and Calculus III	4		MATH 2222	Calculus III Grade of C or better is required.		4
MATH 290	Differential Equations	3		MATH 3304	Elementary Differential Equations		3
PHYS 204 and PHYS 205 and PHYS 206	Physics - Mechanics and Physics - Heat, Electricity, & Magnetism and Physics - Light & Modern Physics All SWIC PHYS 204, 205, and 206 are required to receive credit for both S&T PHYSICS 1135 and 2135.	12		PHYSICS 1135 and PHYSICS 2135	Engineering Physics I and Engineering Physics II Grade of C or better is required.		8
ENG 101	Rhetoric and Composition I	3		ENGLISH 1120	Exposition and Argumentation		3
	Total Hours	32				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.

urther information or updates are available from Missouri S&T Transfer Admissions at transfer mst. edu, transfer@mst.edu, or 800-522-0938.

	Aerospace Engir	neerir	ıg Grou	ıp 2 Major R	equirements	
	Southwestern Illinois College		Semeste	r	Missouri S&T	
ENG 102 or COMM 151	Rhetoric and Composition II or Fundamentals of Public Speaking	3		ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 105	General Chemistry I	5	i	CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
MATH 210 or CIS 250	Computer Programming for Engineers or C++ Programming I	3		CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
ENGR 271	Electrical Circuits	3	1	ELEC ENG 2800	Electrical Circuits	3
ENGR 263	Analytical Mechanics-Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 275	Mechanics of Solids	3	<u> </u>	CIV ENG 2210	Mechanics of Materials	3
MATH 292	Linear Algebra	3		MATH 3108	Linear Algebra I Satisfies the Advanced Math/Comp Sci elective requirement.	3
PHIL 152	Ethics or other engineering, business, bio, social ethics approved by advisor	3	1	PHILOS 1130	How Should I Live? An Introduction to Ethics or other engineering, business, bio, social ethics approved by advisor	3
		s, and Soc	al Sciences G	eneral Education Requi		
	6 hours Huma	nities and F oral and Soc RY 1200, 13	ne Arts from at I sial Sciences from 00, 1310, or PO	•	s and plines.	
			manities and F			
		ct 6 hours 1	rom at least tw	o specific disciplines.		
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or <b>HIST 180*</b> or <b>HIST 181*</b> or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation *Satisfies the State of Missouri government requirement.	ē		ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1223 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 World Literature I: Beginnings to the Renaissance 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	ioral and Soci	al Sciences		
		ct 6 hours t	rom at least tw	o specific disciplines.		
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	World Civilization I or  World Civilization II* or  World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language *Satisfies the State of Missourl 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
		Humaniti	es, Arts, and S Select 3 hou	ocial Sciences rs.		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	art,		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.	(	1		Maximum Free Electives	0
	Group 2 Major Requirements	4			Group 2 Major Requirements	41
	Group 1 Core Requirements Tota	3 al Hours 7			Group 1 Core Requirements  Total Hours*  *\$&T advisor permission is required to transfer more than 68 credits toward the S&T  Aerospace Engineering degree.	26 67

	Architectural En	gineerin	ng Group 2 Major	Requirements	
	Southwestern Illinois College		<u>Semester</u>	Missouri S&T	
ENG 102 or COMM 151	Rhetoric and Composition II or Fundamentals of Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 105	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
ENGR 263	Analytical Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 264	Analytical Mechanics- Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
ENGR 275	Mechanics of Solids	3	CIV ENG 2210	Mechanics of Materials	3
ENGR 251	Surveying	3	CIV ENG 2401	Fundamentals of Surveying	3
ES 102	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
	*At least one course must be selected from HIS	TORY 1200, 1300, Huma	Sciences from at least two specific dis 1310, or POL SCI 1200 to satisfy the anities and Fine Arts m at least two specific disciplines.		
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation *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* 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 World Literature I: Beginnings to the Renaissance 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
	Select 6 hours		ral and Social Sciences o specific disciplines to include HIST	OPV 1200	
HIST 102*	World Civilization II*  *Satisfies the State of Missouri government requirement.	3	HISTORY 1200*	Modern Western Civilization*  *Satisfies the State of Missouri Government requirement.	3
PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics I (Micro) or Principles of Economics I (Macro) 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	36		Group 2 Major Requirements	34
	Group 1 Core Requirements	32 Total Hours 68		Group 1 Core Requirements  Tota  *S&T advisor permission is required to transfer more than 69 credits toward the Architectural Engineering degree.	26 al Hours* 60 • S&T

			ing-Biomanufa Requirements		
	Southwestern Illinois College	<u>Sem</u>	<u>ester</u>	Missouri S&T	
COMM 151	Fundamentals of Public Speaking	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 105	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 106	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2)	3
CHEM 201	Organic Chemistry I	5	CHEM 2210, 2219	*CHEM 1510 is not a degree requirement, transfers as general elective credit.  Organic Chemistry I and Lab	4
CHEM 202 or	Organic Chemistry II (5) or	•	CHEM 2220, 2229 or	Organic Chemistry II and Lab or	•
BIOL 101 or BIOL 270	Principles of Biology I (5) or Genetics (4)	4	BIO SCI 1113, 1219 or BIO SCI 2223	General Biology and Lab or General Genetics Applies to degree as Track Elective.	4
BIOL 157	Human Anatomy and Physiology	5	BIO SCI 3333, 3359	Anatomy and Physiology I and Lab	4
MATH 171 or MATH 210* or CIS 250*	Computer Science I - JAVA (4) or Computer Programming for Engineers* (3) or C++ Programming I* (3)	3	CS 1500 or CS 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* C++)  "Will be substituted for Cs 1500.	3
	From the 6 hours Hu	options listed in each gro manities and Fine Arts fro avioral and Social Science	ces General Education Requir coup below, select 12 hours to incl orn at least two specific disciplines es from at least two specific discip or POL SCI 1200 to satisfy the S	lude and lines.	
		Humanities	and Fine Arts		
	S	elect 6 hours from at lea	ast two specific disciplines.		
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or <b>HIST 180*</b> or <b>HIST 181*</b> or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation 'Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1221 or ENGLISH 1231 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 World Literature I: Beginnings to the Renaissance 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
	0.1.401		Social Sciences	0.000	
PHIL 156	Select 6 hours Biomedical Ethics	from at least two speci	fic disciplines to include PHILOS PHILOS 3223	S 3223.  Bioethics	3
HIST 101 or HIST 102* or GEOG 152 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3	HILOS 3223 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
	No free electives applied to the degree.	0		Maximum Free Electives	0
	Group 2 Major Requirements	42		Group 2 Major Requirements	38
	Group 1 Core Requirements	32 Fotal Hours 74		Group 1 Core Requirements  Total Hour  *S&T advisor permission is required to transfer more than 69 credit hours toward the degree.	26 s* 64

				ing-Biomate		
	Gre	oup 2 M	ajor Re	equirements		
	Southwestern Illinois College		Semester		Missouri S&T	
COMM 151	Fundamentals of Public Speaking	3		SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 105	General Chemistry I	5		CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 106	General Chemistry II	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
CHEM 201	Organic Chemistry I	5		CHEM 2210, 2219*	Organic Chemistry I and Lab*  *CHEM 2219 Lab applies to the degree as a Track Elective (non-engineering).	4
CHEM 202	Organic Chemistry II	5		CHEM 2220, 2229*	Organic Chemistry II and Lab* CHEM 2229 Lab applies to the degree as a Track Elective (non-engineering).	4
BIOL 101	Principles of Biology I	5		BIO SCI 1113*, 1219*	General Biology* and Lab*  *Applies to degree as Track Elective (Non-engineering).	4
BIOL 157	Human Anatomy and Physiology	5		BIO SCI 3333, 3359	Human Anatomy and Physiology I and Lab	4
MATH 171 or MATH 210* or CIS 250*	Computer Science I - JAVA (4) or Computer Programming for Engineers* (3) or C++ Programming I* (3)	3		CS 1500 or CS 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* C++) *Will be substituted for CS 1500.	3
ENGR 263	Analytical Mechanics-Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 271	Electrical 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. Applies to the degree as a Track Elective (Engineering).	4
	6 hours Ho	umanities and Fine navioral and Socia TORY 1200, 1300	Arts from at le Sciences from , 1310, or POL		and lines.	
	c		anities and F	ne arts specific disciplines.		
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or <b>HIST 180*</b> or <b>HIST 181*</b> or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation *Satisfies the State of Missourl government requirement.	6	m at loast we	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature: 1865 to Present or American History to 1877* 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			
DUII 156			o specific dis	ciplines to include PHILOS		2
PHIL 156 HIST 101 or HIST 102* or GEOG 152 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	Biomedical Ethics  World Civilization I or  World Civilization II* or  World Regional Geography or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3		PHILOS 3223 HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Bioethics  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
	No free electives applied to the degree.	0			Maximum Free Electives	0
	Group 2 Major Requirements Group 1 Core Requirements	54 32 Total Hours 86			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.	49 26 75

	Ceramic Eng	ineering	Group	2 Major Re	quirements	
	Southwestern Illinois College		Semester		Missouri S&T	
ENG 102 or COMM 151	Rhetoric and Composition II or Fundamentals of Public Speaking	3		ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
ENGR 263	Analytical Mechanics-Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 275	Mechanics of Solids	3		CIV ENG 2210	Mechanics of Materials	3
CHEM 105	General Chemistry I	5		CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 106	General Chemistry II	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
CHEM 201	Organic Chemistry I	5		CHEM 2210, 2219	Organic Chemistry I (3) and Lab* (1) CHEM 2210 will satisfy the advanced chemistry elective requirement. CHEM 2219 is not an S&T degree requirement, will transfer as general elective credit.	3
	From the 6 hours	ne options listed in Humanities and Fine Behavioral and Socia ISTORY 1200, 1300	each group be e Arts from at le ll Sciences from		lude and lines.	
				specific disciplines.		
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation *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° 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 World Literature I: Beginnings to the Renaissance 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 Socia			
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or PPIL 151 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics II (Macro) 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 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
		Humanities	s, <b>Arts, and So</b> Select 3 hour	ocial Sciences		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any h music, theater, English and technical communicat philosophy, political science, psychology, econom etymology, or foreign language.	ion, 3	Solder 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
	No free electives applied to the degree.	0			Maximum Free Electives	0
	Group 2 Major Requirements Group 1 Core Requirements	39 32 Total Hours 71			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.	35 26 61

	Chemical Engineering	- Bi	ochen	neering or nical Enginee equirements	ring Emphasis	
	<u>-</u>	Z IVI		-	Miccouri COT	
001111151	Southwestern Illinois College		Semester		Missouri S&T  Principles of Speech	
COMM 151	Fundamentals of Public Speaking	3		SP&MS 1185	Applies to degree as Gen Ed Communication requirement.	3
CHEM 105	General Chemistry I	5		CHEM 1310, 1319	General Chemistry I and Lab General Chemistry II (3) and Qualitative Analysis* (2)	5
CHEM 106	General Chemistry II	5		CHEM 1320, 1510*	*CHEM 1510 is not a degree requirement, transfers as general elective credit.	3
CHEM 201	Organic Chemistry I	5		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
CHEM 202 or BIOL 250	Organic Chemistry II (5) or Microbiology (4) Select up to 8 hours from these options. Up to 8 hours will apply to the science elective requirement. Additional hours will transfer as general elective credit.	9		CHEM 2220 or BIO SCI 3313, 3319	Organic Chemistry II (3) or Microbiology and Lab (5) Will partially satisfy the 9-hour science elective requirement. Select up to 8 hours from these options.	8
MATH 171 or MATH 210* or CIS 250*	Computer Science I - JAVA (4) or Computer Programming for Engineers* (3) or C++ Programming I* (3)	3		CS 1500 or CS 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* C++) "Will be substituted for CS 1500.	3
	6 hours Humanities	and Fin d Socia <b>0, 130</b> 0	e Arts from at le	•	nd es.	
	Select 6 h			o specific disciplines.		
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or <b>HIST 180*</b> or <b>HIST 181*</b> or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation 'Satisfies the State of Missouri 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* 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 World Literature I: Beginnings to the Renaissance 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 Socia			
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	Select 6 h World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics II (Macro) or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	ours fro	m at least two	o specific disciplines. HISTORY 1100 or HISTORY 2200* 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
	No free electives applied to the degree.	0			Maximum Free Electives	0
	Group 2 Major Requirements Group 1 Core Requirements Total Hou	42 32 s 74			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 Chemical Engineering degree.	38 26 64

	Civil Engin	eering	Group 2	2 Major Req	uirements	
	Southwestern Illinois College		Semeste	e <u>r</u>	Missouri S&T	
ENG 102 or COMM 151	Rhetoric and Composition II or Fundamentals of Public Speaking		3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 105	General Chemistry I		5	CHEM 1310, 1319	General Chemistry I and Lab	5
ES 102	Physical Geology		4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
ENGR 263	Analytical Mechanics-Statics		3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 264	Analytical Mechanic- Dynamics		3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
ENGR 275	Mechanics of Solids		3	CIV ENG 2210	Mechanics of Materials	3
ENGR 251	Surveying		3	CIV ENG 2401	Fundamentals of Surveying	3
	From the 6 hours	ne options liste Humanities and Behavioral and S	d in each group l I Fine Arts from at Social Sciences fro	General Education Requipelow, select 15 hours to in least two specific discipline or at least two specific discounts two specific discounts of the SCI 1200 to satisfy the	nclude es and ciplines.	
		H	lumanities and	Fine Arts		
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 214 or LIT 210 or HIST 180* or HIST 101 or MUS 101  HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or POLS 150* or	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation *Satisfies the State of Missouri government requirement.  World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or	Beh	6 avioral and Soc	wo specific disciplines. 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: 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* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.  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	6
PSYC 151 or ECON 202 or ECON 201 or Foreign Language	General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.			PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	
		Human	ities, Arts, and Select 3 ho	Social Sciences urs.		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any I music, theater, English and technical communicat philosophy, political science, psychology, econom etymology, or foreign language.	ion,	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 Hours	39 32 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 Civil Engineering degree.	37 26 63

	Computer Eng	ineering	Group 2 Major Re	equirements	
	Southwestern Illinois College		Semester	Missouri S&T	
COMM 151	Fundamentals of Public Speaking	3	SPMS 1185	Principles of Speech	3
CHEM 105	General Chemistry I	5	CHEM 1310, 1319	Applies to degree as Gen Ed Communication requirement.  General Chemistry I and Lab	5
MATH 171 or	Computer Science I - JAVA (4) or		COMP SCI 1500 or	Computational Problem Solving or	
MATH 210* or CIS 250*	Computer Programming for Engineers* (3) or C++ Programming I* (3)	3	COMP SCI 1971,1981*	Intro to Programming Methodology and Lab* *Will be substituted for COMP SCI 1500.	3
ENGR 263 or	Analytical Mechanics-Statics (3) or		CIV ENG 2200 or MECH ENG 2350 or	Engineering Mechanics-Statics (3) or Engineering Mechanics-Dynamics (2) or	
ENGR 264 or	Analytical Mechanics-Dynamics (3) or	3	CHEM 2210 or	Organic Chemistry I (3) or	3
CHEM 201 or BIOL 270	Organic Chemistry I (5) or General Genetics (4)	_	BIO SCI 2223	General Genetics (3)	
BIOL 270	General Genetics (4)			Satisfies a required engineering/science elective.	
ENGR 271	Electrical 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
MATH 292	Linear Algebra	3	MATH 3108	Linear Algebra Satisfies a required math elective.	3
	6 hours Be *At least one course must be selected from HIS	havioral and Social S TORY 1200, 1300, 1 Humar	nities and Fine Arts	olines.	
		Select 6 hours from	at least two specific disciplines.		
LIT 251 or	Early British Literature or		ENGLISH 1211 or	British Literature I: The Beginnings to 1800 or	
LIT 252 or LIT 213 or	British & Commonwealth Literature or Early American Literature or		ENGLISH 1212 or ENGLISH 1221 or	British Literature II: 1800 to Present American Literature: 1600 to 1865 or	
LIT 214 or	Modern American Literature or		ENGLISH 1222 or	American Literature: 1865 to Present or	
LIT 201 or	World Literature to Enlightenment or	6	ENGLISH 1231 or	World Literature I: Beginnings to the Renaissance or	6
HIST 180* or	US History to 1865* or	O	HISTORY 1300* or	American History to 1877* or	U
HIST 181* or ART 101 or	US History, 1865 to Present* or Art Appreciation or		<b>HISTORY 1310*</b> or ART 1180 or	American History Since 1877* or Art Appreciation or	
MUS 101	Music Appreciation		MUSIC 1150	Music Understanding and Appreciation	
	*Satisfies the State of Missouri government requirement.			*Satisfies the State of Missouri government requirement.	
			al and Social Sciences  at least two specific disciplines.		
HIST 101 or	World Civilization I or	Select 6 flours from	HISTORY 1100 or	Early Western Civilization or	
HIST 102* or	World Civilization II* or		HISTORY 1200* or	Modern Western Civilization* or	
GEOG 152 or	World Regional Geography or		HISTORY 2110 or	World Regional Geography or	
PHIL 150 or	Intro to Philosophy or		PHILOS 1105 or	Self and World: Intro to Philosophy or	
PHIL 151 or POLS 150* or	Introductory Logic or Intro to American Government* or	6	PHILOS 1115 or <b>POL SCI 1200*</b> or	Logic and Reasoning: An Introduction or American Government*or	6
PSYC 151 or	General Psychology or	· ·	PSYCH 1101 or	General Psychology or	Ü
ECON 202 or	Principles of Economics II (Micro) or		ECON 1100 or	Principles of Microeconomics or	
ECON 201 or	Principles of Economics I (Macro) 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 Social Sciences Select 3 hours.	•	
ENG 102	Rhetoric and Composition II	3	ENGLISH 1160	Writing and Research	3
Electives	Maximum Free Electives	3	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	38		Group 2 Major Requirements	39
	Group 1 Core Requirements	32		Group 1 Core Requirements	26
		Total Hours 70		Total Hours  *S&T advisor permission is required to transfer more than 68 credits toward the S&T  Computer Engineering degree.	* 65

	Electrical Eng	ineering	Group 2 Major Re	equirements	
	Southwestern Illinois College		Semester	Missouri S&T	
COMM 151	Fundamentals of Public Speaking	3	SPMS 1185	Principles of Speech	3
CHEM 105	General Chemistry I	5	CHEM 1310, 1319	Applies to degree as Gen Ed Communication requirement.  General Chemistry I and Lab	5
MATH 171 or	Computer Science I - JAVA (4) or	-		Computational Problem Solving or	
MATH 210* or CIS 250*	Computer Programming for Engineers* (3) or C++ Programming I* (3)	3	CS 1500 or CS 1971,1981*	Intro to Programming Methodology and Lab* C++) *Will be substituted for CS 1500.	3
ENGR 263 or ENGR 264 or CHEM 201 or BIOL 270	Analytical Mechanics-Statics (3) or Analytical Mechanics-Dynamics (3) or Organic Chemistry I (5) or General Genetics (4)	3	CIV ENG 2200 or MECH ENG 2350 or CHEM 2210 or BIO SCI 2223	Engineering Mechanics-Statics (3) or Engineering Mechanics-Dynamics (2) or Organic Chemistry I (3) or General Genetics (3) Satisfies a required engineering/science elective.	3
ENGR 271	Electrical 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
MATH 292	Linear Algebra	3	MATH 3108	Linear Algebra	3
	6 hours H	Humanities and Fine a chavioral and Social STORY 1200, 1300,	ach group below, select 15 hours to in Arts from at least two specific discipline: Sciences from at least two specific disci 1310, or POL SCI 1200 to satisfy the nities and Fine Arts	s and plines.	
			n at least two specific disciplines.		
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or <b>HIST 180*</b> or <b>HIST 181*</b> or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation *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* 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 World Literature I: Beginnings to the Renaissance 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
		Behaviora	al and Social Sciences		
		Select 6 hours from	n at least two specific disciplines.		
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) 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		
ENG 102	Rhetoric and Composition II	3	Select 3 hours. ENGLISH 1160	Writing and Research	3
Electives	Maximum Free Electives	6	Electives	Maximum Free Electives	6
	Group 2 Major Requirements	41		Group 2 Major Requirements	42
	Group 1 Core Requirements	Total Hours 73		Group 1 Core Requirements  Total Hours *\$&T advisor permission is required to transfer more than 68 credits toward the \$&T Electrical Engineering degree.	26 s* 68

	Engineering Ma	anagem	er	nt Group 2 Major F	Requirements	
	Southwestern Illinois College			Semester	Missouri S&T	
COMM 151	Fundamentals of Public Speaking	;	3	SPMS 1185	Principles of Speech	3
CHEM 105	General Chemistry I		5	CHEM 1310, 1319	Applies to degree as Gen Ed Communication requirement.  General Chemistry I and Lab	5
MATH 210 or CIS 250	Computer Programming for Engineers or C++ Programming I		3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
ENGR 271	Electrical Circuits	;	3	ELEC ENG 2800	Electrical Circuits	3
ENGR 263	Analytical Mechanics-Statics	;	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 264	Analytical Mechanics- Dynamics		3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
ENGR 275	Mechanics of Solids	;	3	CIV ENG 2210	Mechanics of Materials	3
	Humanities	s, Arts, and Soc	ial S	Sciences General Education Requir	ements	
	6 hours	Humanities and F Behavioral and So	ine A	ach group below, select 15 hours to inc Arts from at least two specific disciplines Sciences from at least two specific discip 1310. or POL SCI 1200 to satisfy the S	and lines.	
	7.1.10001 0110 0001100 111001 20 00100100 1101111			nities and Fine Arts	acto of microan government requirements	
				at least two specific disciplines.		
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or <b>HIST 180*</b> or <b>HIST 181*</b> or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation **atsifies 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* 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 World Literature I: Beginnings to the Renaissance 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
	Select 6 ho			al and Social Sciences o specific disciplines to include PSYC	<del>l</del> 1101.	
PSYC 151	General Psychology	;	3	PSYCH 1101	General Psychology Required	3
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or POLS 150* or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or Principles of Economics II (Micro) or Principles of Economics I (Macro) 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
		Humaniti		Arts, and Social Sciences Select 3 hours.		
ENG 102	Rhetoric and Composition II	:	3	ENGLISH 1160	Writing and Research	3
	No free electives applied to the degree.	(	0	Electives	Maximum Free Electives	0
	Group 2 Major Requirements Group 1 Core Requirements	3	38 32	Listaros	Group 2 Major Requirements Group 1 Core Requirements	37 26
		Total Hours 7	U		Total Hours*  *S&T advisor permission is required to transfer more than 61 credits toward the S&T  Engineering Management degree.	61

	Environmental E	ngineeri	ng Gro	oup 2 Major	Requirements	
	Southwestern Illinois College		Semester		Missouri S&T	
ENG 102 or COMM 151	Rhetoric and Composition II or Fundamentals of Public Speaking	3		ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
ES 102	Physical Geology	4		GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
CHEM 105	General Chemistry I	5		CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 106	General Chemistry II	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
BIOL 101	Principles of 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
ENGR 263	Analytical Mechanics-Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 264	Analytical Mechanics- Dynamics	3		MECH ENG 2350	Engineering Mechanics-Dynamics	2
ENGR 275	Mechanics of Solids	3		CIV ENG 2210	Mechanics of Materials	3
	6 hours Hu	umanities and Fine navioral and Socia TORY 1200, 1300	Arts from at le Sciences from , 1310, or POL	•	s and olines.	
	Ę		anities and Fi m at least two	specific disciplines.		
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation *Satisfies the State of Missouri government requirement.	6		ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1223 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: 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* or Art Appreciation or Music Understanding and Appreciation 'Satisfies the State of Missouri government requirement.	6
	Select 6 hours		ral and Socia	Il Sciences iplines to include HISTO	RV 1200	
HIST 102*	World Civilization II* *Satisfies the State of Missouri government requirement.	3	o opeomo dioc	HISTORY 1200*	Modern Western Civilization* *Satisfies the State of Missouri Government requirement.	3
PHIL 150 or PHIL 151 or POLS 150° or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) 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	42			Group 2 Major Requirements	37
	Group 1 Core Requirements	32 Total Hours 74			Group 1 Core Requirements  Total Hours*  *S&T advisor permission is required to transfer more than 69 credits toward the S&T  Environmental Engineering degree.	26 63

	Geological Eng	gineerin	g Grou	p 2 Major F	Requirements	
	Southwestern Illinois College		Semester		Missouri S&T	
CHEM 105	General Chemistry I	5		CHEM 1310, 1319	General Chemistry I and Lab	5
MATH 171 or MATH 210 or CIS 250	Computer Science I - JAVA (4) or Computer Programming for Engineers (3) or C++ Programming I (3)	3		CS 1500 or CS 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab (C++)	3
ES 102	Physical Geology	4		GEO ENG 1150 (GEOLOGY 1110)	Physical and Environmental Geology	3
ENGR 263	Analytical Mechanics-Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 264	Analytical Mechanics- Dynamics	3		MECH ENG 2350	Engineering Mechanics-Dynamics	2
ENGR 275	Mechanics of Solids	3		CIV ENG 2210	Mechanics of Materials	3
	From the 6 hours H	options listed in lumanities and Find havioral and Socia	each group be e Arts from at le al Sciences from	eneral Education Requestion, select 15 hours to interest two specific disciplines at least two specific disc. SCI 1200 to satisfy the	nclude es and ciplines.	
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation *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* 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 World Literature I: Beginnings to the Renaissance 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 Socia			
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics II (Macro) 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 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 Microeconomics or  Elementary or Intermediate Foreign Language  *Satisfies 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 his music, theater, English and technical communicatio philosophy, political science, psychology, economics etymology, or foreign language.	n, 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 36 32 Total Hours 68			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 34 26 60

	Mechanical Eng	ineerin	g Grou	ıp 2 Major F	Requirements	
	Southwestern Illinois College		Semester		Missouri S&T	
CAD 100	Print Reading for Tech Trades	3		MECH ENG 1761	Intro to Computer Aided Design	1
ENG 102 or COMM 151	Rhetoric and Composition II or Fundamentals of Public Speaking	3		ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 105	General Chemistry I	5		CHEM 1310*, 1319	General Chemistry I and Lab  *CHEM 1310 will be substituted for CHEM 1305.	5
MATH 210 or CIS 250	Computer Programming for Engineers or C++ Programming I	3		CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
ENGR 271	Electrical Circuits	3		ELEC ENG 2800	Electrical Circuits	3
ENGR 263	Analytical Mechanics-Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 275	Mechanics of Solids	3		CIV ENG 2210	Mechanics of Materials	3
MATH 292	Linear Algebra	3		MATH 3108	Linear Algebra I Satisfies the Advanced Math/Statistics elective requirement.	3
	From the o 6 hours Hun	ptions listed in nanities and Fin vioral and Socia	each group be e Arts from at le al Sciences fron	eneral Education Requelow, select 15 hours to in east two specific discipline in at least two specific disc L SCI 1200 to satisfy the	clude s and iplines.	
			anities and F			
		lect 6 hours fro	om at least two	specific disciplines.		
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation *Satisfies the State of Missouri government requirement.	6		ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1223 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 World Literature: Beginnings to the Renaissance 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 Socia			
		lect 6 hours fro	om at least two	specific disciplines.		
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) 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	s, <b>Arts, and S</b> e Select 3 hou	ocial Sciences s.		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any histor music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	ry, 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	41			Group 2 Major Requirements	39
	Group 1 Core Requirements	32 otal Hours 73			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.	26 65

	Southwestern Illinois College		Seme	ster	Missouri S&T	_
ENG 102 or COMM 151	Rhetoric and Composition II or Fundamentals of Public Speaking		3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
ENGR 263	Analytical Mechanics-Statics		3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 275	Mechanics of Solids		3	CIV ENG 2210	Mechanics of Materials	3
CHEM 105	General Chemistry I		5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 106	General Chemistry II		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
CHEM 201 or ENGR 271	Organic Chemistry I (5) or Electrical Circuits (3)		5	CHEM 2210 or EE 2800	Electrical Circuits (3)  Not specifically required for the degree but will satisfy out-of-department technical elective requirement	3
	6 hours Huma	anities and ioral and S RY 1200, 1	Fine Arts from locial Science 1300, 1310, o	up below, select 15 hours to in n at least two specific discipline s from at least two specific disc POL SCI 1200 to satisfy the nd Fine Arts	s and iplines.	
		ect 6 hours	s from at leas	st two specific disciplines.		
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or <b>HIST 180*</b> or <b>HIST 181*</b> or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation *Satisfies the State of Missouri government requirement.		6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1221 or ENGLISH 1231 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 World Literature: Beginnings to the Renaissance 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	avioral and	Social Sciences		
	Sele	ect 6 hours	s from at leas	st two specific disciplines.		
HIST 102* or HIST 102* or GEOG 152 or PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.		6	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
		Humani	i <b>ties, Arts, a</b> Select 3	nd Social Sciences hours.		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history 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
	Maximum Free Electives		3		Maximum Free Electives	3
	Group 2 Major Requirements		42		Group 2 Major Requirements	38
	Group 1 Core Requirements	hall laving	32		Group 1 Core Requirements	26 64
	lot	tal Hours	74		Total Hours*  *S&T advisor permission is required to transfer more than 68 credits toward the S&T	64

	Mining Eng	ineering Gro	oup 2 Major Re	quirements	
	Southwestern Illinois College	Se	mester	Missouri S&T	
ENG 102 or COMM 151	Rhetoric and Composition II or Fundamentals of Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 105	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
ENGR 263	Analytical Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 264	Analytical Mechanics- Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
ENGR 275	Mechanics of Solids	3	CIV ENG 2210	Mechanics of Materials	3
ES 102	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
	From 6 hou	the options listed in each s Humanities and Fine Arts Behavioral and Social Sciel HISTORY 1200, 1300, 1310	nnces General Education Requigroup below, select 12 hours to infrom at least two specific discipline neces from at least two specific disco, or POL SCI 1200 to satisfy the sand Fine Arts	nclude es and ciplines.	
			least two specific disciplines.		
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation '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* 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 World Literature I: Beginnings to the Renaissance 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
			nd Social Sciences		
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	Select 6 hours from at	least two 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
	No free electives applied to the degree. Group 2 Major Requirements Group 1 Core Requirements	0 33 32 Total Hours 65		Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements  Total Ho  *S&T advisor permission is required to transfer more than 68 credits toward the S&T Mining Engineering degree.	0 31 26 purs* 57

	Nuclear Eng	ineerin	g Group	2 Major Re	equirements	
	Southwestern Illinois College		Semeste		Missouri S&T	
ENG 102 or COMM 151	Rhetoric and Composition II or Fundamentals of Public Speaking		3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 105	General Chemistry I		5	CHEM 1310, 1319	General Chemistry I and Lab	5
MATH 210 or CIS 250	Computer Programming for Engineers or C++ Programming I		3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
MATH 292	Linear Algebra		3	MATH 3108	Linear Algebra I	3
ENGR 263	Analytical Mechanics-Statics		3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 275	Mechanics of Solids		3	CIV ENG 2210	Mechanics of Materials	3
ENGR 271	Electrical Circuits		3	ELEC ENG 2800 eneral Education Requ	Electrical Circuits	3
	6 hours	Humanities and Behavioral and S	Fine Arts from at I ocial Sciences from	elow, select 15 hours to in east two specific discipline in at least two specific disc SCI 1200 to satisfy the	es and ciplines.	
		н	lumanities and F	ine Arts		
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or HIST 180* or HIST 181* or ART 101 or MUS 101 ECON 202 or ECON 201	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation *Satisfies the State of Missouri government requirement.  Principles of Economics II (Micro) or Principles of Economics I (Macro)		6  avioral and Socions from at least two	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1221 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 al Sciences o specific disciplines. ECON 1100 or ECON 1200	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.  Principles of Microeconomics or Principles of Macroeconomics	6
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or General 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 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
		Humani	ties, Arts, and S Select 3 hou			
HASS Elective	Humanities, Arts, Social Sciences Elective: Any I music, theater, English and technical communical philosophy, political science, psychology, econom etymology, or foreign language.	tion,	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 Group 1 Core Requirements	Total Hours	38 32 70		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.	38 26 64

	Petroleum Eng	ineering	g Group 2 Major R	Requirements	
	Southwestern Illinois College		<u>Semester</u>	Missouri S&T	
ENG 102 or COMM 151	Rhetoric and Composition II or Fundamentals of Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 105	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
MATH 171	Computer Science I - JAVA (4)	3	COMP SCI 1500	Computational Problem Solving	3
ES 102	Physical Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
ENGR 263	Analytical Mechanics-Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 264	Analytical Mechanics- Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
ENGR 275	Mechanics of Solids	3	CIV ENG 2210	Mechanics of Materials	3
	From the c 6 hours Hu	options listed in options listed in options listed in options and Fine avioral and Social	I Sciences General Education Requeach group below, select 15 hours to in e Arts from at least two specific discipline I Sciences from at least two specific disc, , 1310, or POL SCI 1200 to satisfy the	nclude es and eiplines.	
	S		anities and Fine Arts om at least two specific disciplines.		
LIT 251 or LIT 252 or LIT 213 or LIT 214 or LIT 201 or <b>HIST 180*</b> or <b>HIST 181*</b> or ART 101 or MUS 101	Early British Literature or British & Commonwealth Literature or Early American Literature or Modern American Literature or World Literature to Enlightenment or US History to 1865* or US History, 1865 to Present* or Art Appreciation or Music Appreciation *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* 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 World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation Statisfies the State of Missouri government requirement.	6
			ral and Social Sciences		
HIST 101 or HIST 102* or GEOG 152 or PHIL 150 or PHIL 151 or POLS 150* or PSYC 151 or ECON 202 or ECON 201 or Foreign Language	World Civilization I or World Civilization II* or World Regional Geography or Intro to Philosophy or Introductory Logic or Intro to American Government* or General Psychology or Principles of Economics II (Micro) or Principles of Economics I (Macro) or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	om at least two 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
		Humanities	, Arts, and Social Sciences Select 3 hours.		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any histo 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.	0		Maximum Free Electives	0
	Group 2 Major Requirements Group 1 Core Requirements	39 32 Fotal 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 Petroleum Engineering degree.	37 26 63