Spelman 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.

	Spelman College		Semester	,	Missouri S&T	
MATH 231	Calculus I	4		MATH 1214	Calculus I Grade of C or better is required.	4
MATH 232	Calculus II	4		MATH 1215	Calculus II Grade of C or better is required.	4
MATH 324	Calculus III	4		MATH 2222	Calculus III Grade of C or better is required.	4
MATH 365	Differential Equations	4		MATH 3304	Elementary Differential Equations	3
PHY 151 and PHY 241 and PHY 242	Physics I: Mechanics and Physics II: Electricity and Magnetism and Physics III: Optics and Modern Physics "The combination of Spelman PHY 151, 241, and 242 is equivalent to the combination of Missouri STT PHYSICS 1135 and 2135. All three courses must be taken to salisify this requirement.	12		PHYSICS 1135* and PHYSICS 2135*	Engineering Physics I and Engineering Physics II Grade of C or better is required. *The combination of Spelman PHY 151, 241, and 242 is equivalent to the combination of Missouri STT PHYSICS 1135 and 2135. All three courses must be taken to satisfy this requirement.	8
ERG 101	Intro to Engineering	2		FR ENG 1100	Study and Careers in Engineering and Computing	1
ENG 103	First Year Composition	4		ENGLISH 1120	Exposition and Argumentation	3
	Total Hours	34			Total Hours	27

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

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

Aerospace Engineering
Architectural Engineering
Biomedical Engineering/Biomanufacturing or Biomaterials
Ceramic Engineering

Chemical Engineering and Biochemistry Emphasis

Civil Engineering
Computer Engineering
Electrical Engineering

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

Engineering Major Requirements are detailed on the following pages.

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

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

	Aerospace En	gineeri	ing Grou	ıp 2 Major Ro	equirements	
	Spelman College		Semester	_	Missouri S&T	
CHE 111, 111L	General Chemistry I and Lab		4	CHEM 1310*, 1319	General Chemistry I and Lab pending approval *CHEM 1310 will be substituted for CHEM 1305.	5
CS 121	Computer Science I		4	COMP SCI 1971, 1981	Intro to Programming Method and Lab (C++)	3
MAT 214	Linear Algebra and Applications		4	MATH 3108	Linear Algebra I Will satisfy the Advanced Math/Comp Sci elective requirement.	3
Ethics	Ethics Elective Any engineering, business, bio, social ethics approved by advisor.		3	Ethics	Ethics Elective Any engineering, business, bio, social ethics approved by advisor.	3
	From the 6 hours	ne options listed Humanities and Behavioral and S	d in each group be Fine Arts from at le Social Sciences fror	eneral Education Requirelow, select 15 hours to incleast two specific disciplines in at least two specific disciplines of the SCI 1200 to satisfy the	ude and lines.	
	At least one course must be selected from h		lumanities and F	•	tate of Missouri government requirement.	
				o specific disciplines.		
ENG 307 or ENG 323 or ENG 324 or ENG 211 or HIS 211* or HIS 212* or ART 110 or MUS 120	Early and Middle English Literature or 19th-Century U.S. Literature or U.S. Literature After 1900 or World Literature: Ancient to 1600 or Survey of American History I* or Survey of American History II* or Survey of Visual Arts or Music History and Appreciation *Satisfies the State of Missouri government requirement.		6	ENGLISH 1211 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 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
			avioral and Socia			
PHI 220 or PHI 201 or PSC 201* or PSY 200 or ECON 242 or ECON 241 or Foreign Language	Intro to Philosophy or Formal Logic or National Government in the US* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	Select 6 nour	s from at least two	o specific disciplines. 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.	6
		Humani	ities, Arts, and S Select 3 hou			
HASS Elective	Humanities, Arts, Social Sciences Elective: Any h music, theater, English and technical communicat philosophy, political science, psychology, economi 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. Group 2 Major Requirements Group 1 Core Requirements	Total Hours	0 30 34 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 Aerospace Engineering degree.	0 29 27 56

	Architectural E	ngineering	Group 2 Major I	Requirements	
	Spelman College	Se	emester	Missouri S&T	
CHE 111, 111L	General Chemistry I and Lab	4	CHEM 1310*, 1319	General Chemistry I and Lab pending approval *CHEM 1310 will be substituted for CHEM 1305.	5
	From t	he options listed in each Humanities and Fine Arts 3 hours Behavio ISTORY 1200, 1300, 131		ude and	
			es and Fine Arts least two specific disciplines.		
ENG 307 or ENG 323 or ENG 324 or ENG 211 or HIS 211* or HIS 212* or ART 110 or MUS 120	Early and Middle English Literature or 19th-Century U.S. Literature or U.S. Literature After 1900 or World Literature: Ancient to 1600 or Survey of American History I* or Survey of American History II* or Survey of Visual Arts or Music History and Appreciation *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 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 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 ect 3 hours.		
PHI 220 or PHI 201 or PSC 201* or PSY 200 or ECON 242 or ECON 241 or Foreign Language	Intro to Philosophy or Formal Logic or National Government in the US* 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	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 13 34 Total Hours 47		Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements Total Hou	0 14 27 Irs* 41
				*S&T advisor permission is required to transfer more than 69 credits toward the S&T Architectural Engineering degree.	

	Biomedical E Grou	_			-Biomanufac equirements	cturing	
	Spelman College			Semester		Missouri S&T	
CHE 111, 111L	General Chemistry I and Lab		4		CHEM 1310, 1319	General Chemistry I and Lab	5
CHE 112, 112L	General Chemistry II (3) and Lab (1)		4		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 231,233L	Organic Chemistry I and Lab		5		CHEM 2210, 2219	Organic Chemistry I and Lab	4
CHE 232, 234L or BIO 110 or	Organic Chemistry II (4) and Lab (1) or Biological Communities, Evolution, and Biodiversity (4)		4		CHEM 2220, 2229 or BIO SCI 1113, 1219	Organic Chemistry II and Lab or General Biology and Lab Applies to degree as Track Elective.	4
BIO 120	Cellular Dynamics		4		BIO SCI 2213, 2219	Cell Biology and Lab	4
CIS 123 or CIS 131 or CIS 121*	Computer Science I: Python or Computer Science I: Matlab or Computer Science I*		4		COMP SCI 1500 or COMP SCI 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* "Will be substituted for COMP SCI 1500.	3
	From the option 6 hours Humanit	ns listed ies and al and So 1200, 1	d in e Fine ocial 1300,	ach group be Arts from at I Sciences fror 1310, or PO	•	rde and nes.	
	Select			nities and F n at least tw	ine Arts o specific disciplines.		
ENG 307 or ENG 323 or ENG 324 or ENG 211 or HIS 211* or HIS 212* or ART 110 or MUS 120	Early and Middle English Literature or 19th-Century U.S. Literature or U.S. Literature After 1900 or World Literature: Ancient to 1600 or Survey of American History I* or Survey of American History II* or Survey of Visual Arts or Music History and Appreciation *Satisfies the State of Missouri government requirement.		6		ENGLISH 1211 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 American Literature: 1800 to 1865 or American Literature: 1865 to Present or World Literature: 18eginnings 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
	- · ·			al and Soci			
DI III OC 205		6 hours		n at least tw	specific disciplines.	Disabbiss	2
PHILOS 295 PHI 220 or PHI 201 or PSC 201* or PSY 200 or ECON 242 or ECON 241 or Foreign Language	Bio-Medical Ethics Intro to Philosophy or Formal Logic or National Government in the US* 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		PHILOS 3223 PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Bioethics 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 Total I	Hours	0 37 34 71			Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements Total Hours* *S&T advisor permission is required to transfer more than 69 credit hours toward the degree.	0 35 27 62

			neering-Biomate		
	Gro	up 2 Maj	or Requirements		
CHE 111, 111L CHE 112, 112L	Spelman College General Chemistry I and Lab	4 4	CHEM 1310, 1319	Missouri S&T General Chemistry I and Lab General Chemistry II (3) and Qualitative Analysis (2)	5 3
CHEM 231,233L	General Chemistry II (3) and Lab (1) Organic Chemistry I and Lab	5	CHEM 1320, 1510* CHEM 2210, 2219*	*CHEM 1510 is not a degree requirement, transfers as general elective credit. Organic Chemistry I and Lab* *CHEM 2219 Lab applies to the degree as a Track Elective (non-engineering).	4
CHE 232, 234L	Organic Chemistry II (4) and Lab (1)	5	CHEM 2220, 2229*	Organic Chemistry II and Lab* CHEM 2229 Lab applies to the degree as a Track Elective (non-engineering).	4
BIO 110	Biological Communities, Evolution, and Biodiversity	4	BIO SCI 1113*, 1219*	General Biology* and Lab* *Applies to degree as Track Elective (Non-engineering).	4
BIO 120 CIS 123 or CIS 131 or CIS 121*	Cellular Dynamics Computer Science I: Python or Computer Science I: Matlab or Computer Science I*	4	BIO SCI 2213, 2219 COMP SCI 1500 or COMP SCI 1971,1981*	Cell Biology and Lab Computational Problem Solving or Intro to Programming Methodology and Lab* "Will be substituted for COMP SCI 1500.	3
	From the op 6 hours Hum	otions listed in each anities and Fine Art vioral and Social Sci	ciences General Education Requir h group below, select 12 hours to inc ts from at least two specific disciplines iences from at least two specific discip 10. or POL SCI 1200 to satisfy the S	lude and lines.	
			ties and Fine Arts	3	
ENG 307 or ENG 323 or ENG 324 or ENG 211 or HIS 211* or HIS 212* or ART 110 or MUS 120	Early and Middle English Literature or 19th-Century U.S. Literature or U.S. Literature After 1900 or World Literature: Ancient to 1600 or Survey of American History I* or Survey of American History II* or Survey of Visual Arts or Music History and Appreciation "Satisfies the State of Missouri government requirement.	6	at least two specific disciplines. ENGLISH 1211 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 and Social Sciences	British Literature I: The Beginnings to 1800 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* or Art Appreciation or Music Understanding and Appreciation 'Satisfies the State of Missouri government requirement.	6
	Sel		and Social Sciences at least two specific disciplines.		
PHILOS 295	Bio-Medical Ethics	3	PHILOS 3223	Bioethics	3
PHI 220 or PHI 201 or PSC 201* or PSY 200 or ECON 242 or ECON 241 or Foreign Language	Intro to Philosophy or Formal Logic or National Government in the US* 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	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 To	0 42 34 otal Hours 76		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 Biomedical Engineering degree.	0 39 27 * 66

	Ceramic Engin	eering	Group	2 Major Red	quirements	
	Spelman College		Semester		Missouri S&T	
CHE 111, 111L	General Chemistry I and Lab	4		CHEM 1310, 1319	General Chemistry I and Lab General Chemistry II (3) and Qualitative Analysis (2)	5
CHE 112, 112L	General Chemistry II (3) and Lab (1)	4		CHEM 1320, 1510*	*CHEM 1510 is not a degree requirement, transfers as general elective credit.	3
CHE 231 or CHE 421	Organic Chemistry I (4) or Inorganic Chemistry (3)	3		CHEM 2210, 2219* or CHEM 3310	Organic Chemistry I (3) and Lab* (1) or Inorganic Chemistry I (3) Satisfies the advanced chemistry elective requirement. 'The lab is not a degree requirement, transfers as general elective credit.	3
	From the op 6 hours Hum	tions listed in anities and Fir ioral and Soci	each group be le Arts from at le al Sciences fron	eneral Education Requirelow, select 15 hours to incleast two specific disciplines at least two specific disciplines SCI 1200 to satisfy the S	lude and lines.	
	At least one course must be selected from the re-		nanities and F	•	tate of missouri government requirement.	
	Sel	ect 6 hours fr	om at least two	specific disciplines.		
ENG 307 or ENG 323 or ENG 324 or ENG 211 or HIS 211* or HIS 212* or ART 110 or MUS 120	Early and Middle English Literature or 19th-Century U.S. Literature or U.S. Literature or U.S. Literature or U.S. Literature After 1900 or World Literature: Ancient to 1600 or Survey of American History I* or Survey of American History II* or Survey of Visual Arts or Music History and Appreciation *Satisfies the State of Missouri government requirement.	6		ENGLISH 1211 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 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			
		ect 6 hours fr	om at least two	specific disciplines.		
PHI 220 or PHI 201 or PSC 201* or PSY 200 or ECON 242 or ECON 241 or Foreign Language	Intro to Philosophy or Formal Logic or National Government in the US* 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		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.	6
		Humanitie	s, Arts, and Select 3 hou	ocial Sciences		
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	OSIGOL S FIOU	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 To	26 34 tal Hours 60			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.	26 27 53

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	Chemical Enginee	_			nıcaı Engined equirements	•	
CHE 111, 111L	Spelman College General Chemistry I and Lab			Semester		Missouri S&T General Chemistry I and Lab	5
CHE 112, 112L	General Chemistry II (3) and Lab (1)		4		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 231,233L	Organic Chemistry I and Lab		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
CHE 232 or CHE 301, 301L or BIO 120 or CHE 410 or	Organic Chemistry II or Analytical Chemistry and Lab or Cell Biology or Biochemical Principles or Select up to 8 hours from these options.		8		CHEM 2220 or CHEM 2510 or BIO SCI 2213, 2219 or CHEM 4610, 4619	Organic Chemistry II (3) or Analytical Chemistry (4) or Cell Biology and Lab (4) or General Biochemistry and Lab (5) Applies to the degree as required science elective credits. Select up to 9 hours from these options or CHEM 2219 Organic Chemistry Lab	8
CIS 123 or CIS 131 or CIS 121*	Computer Science I: Python or Computer Science I: Matlab or Computer Science I*		4		COMP SCI 1500 or COMP SCI 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* *Will be substituted for COMP SCI 1500.	3
	Humanities, A	Arts, and So	cial S	Sciences Ge	eneral Education Require	ements	
					elow, select 12 hours to inclu		
					east two specific disciplines a		
					at least two specific discipli		
	*At least one course must be selected from HIST				•	ate of Missouri government requirement.	
				nities and F			
ENG 307 or	Early and Middle English Literature or	elect 6 nours	s irom	i at least two	specific disciplines. ENGLISH 1211 or	British Literature I: The Beginnings to 1800 or	
ENG 323 or ENG 324 or ENG 211 or	19th-Century U.S. Literature or U.S. Literature After 1900 or World Literature: Ancient to 1600 or				ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or	American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or	
HIS 211* or HIS 212* or ART 110 or MUS 120	Survey of American History I* or Survey of American History II* or Survey of Visual Arts or Music History and Appreciation *Satisfies the State of Missouri government requirement.		6		HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
	"Satisfies the State of Missouri government requirement.	Robe	oviora	al and Socia	al Scioncos	Satisfies the State of Missouri government requirement.	
	S				specific disciplines.		
PHI 220 or PHI 201 or PSC 201* or PSY 200 or ECON 242 or ECON 241 or Foreign Language	Intro to Philosophy or Formal Logic or National Government in the US* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	onour	6	i at icasi (Wi	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.	6
	No free electives applied to the degree.		0			Maximum Free Electives	0
	Group 2 Major Requirements		37			Group 2 Major Requirements	35
	Group 1 Core Requirements		34			Group 1 Core Requirements	27
	·	Total Hours	71			Total Hours* *S&T advisor permission is required to transfer more than 68 credits toward the S&T Chemical Engineering degree.	62

	Civil Engineeri	ng Group	2 Major Req	uirements	
	Spelman College	Semest		Missouri S&T	
CHE 111, 111L	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
	From the option 6 hours Humanit	ns listed in each group ies and Fine Arts from a Il and Social Sciences fr	General Education Requipelow, select 15 hours to in it least two specific discipline from at least two specific discounts out 1200 to satisfy the	iclude es and iplines.	
		Humanities and	Fine Arts		
	Select	6 hours from at least t	wo specific disciplines.		
ENG 307 or ENG 323 or ENG 324 or ENG 211 or HIS 211* or HIS 212* or ART 110 or MUS 120	Early and Middle English Literature or 19th-Century U.S. Literature or U.S. Literature After 1900 or World Literature: Ancient to 1600 or Survey of American History I* or Survey of American History II* or Survey of Visual Arts or Music History and Appreciation *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 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 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.	6
		Behavioral and So	cial Sciences		
	Select	6 hours from at least t	wo specific disciplines.		
PHI 220 or PHI 201 or PSC 201* or PSY 200 or ECON 242 or ECON 241 or Foreign Language	Intro to Philosophy or Formal Logic or National Government in the US* 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	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.	6
	н	umanities, Arts, and			
		Select 3 ho	ours.		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, ar music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	t, 3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
	No free electives applied to the degree. Group 2 Major Requirements Group 1 Core Requirements Total I	0 19 34 Hours 53		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 Civil Engineering degree.	0 20 27 47

	Computer En	gineering	Grou	p 2 Major Re	equirements	
	Spelman College		Semester		Missouri S&T	
CHE 111, 111L	General Chemistry I and Lab	4		CHEM 1310, 1319	General Chemistry I and Lab	5
MAT 234	Discrete Mathematics	4		COMP SCI 1200	Discrete Math for Computer Science	3
CIS 123 or CIS 131 or CIS 121*	Computer Science I: Python or Computer Science I: Matlab or Computer Science I*	4		COMP SCI 1500 or COMP SCI 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* "Will be substituted for COMP SCI 1500.	3
CHE 231 or BIO 120	Organic Chemistry I or Cell Biology	4		CHEM 2210, 2219* or BIO SCI 2213	Organic Chemistry I (3) and Lab* (1) or Cell Biology (3) Satisfies a required engineering/science elective. *CHEM 2219 is not a degree requirement; transfers as general elective credit.	3
MAT 214 or MAT 233	Linear Algebra and Applications or Foundations of Mathematics	4		MATH 3108 or MATH 3109	Linear Algebra or Foundations of Mathematics Satisfies a required math elective.	3
	From 6 hours	the options listed in e s Humanities and Fine Behavioral and Social	each group be Arts from at le Sciences from	eneral Education Require elow, select 12 hours to incleast two specific disciplines an at least two specific disciplines SCI 1200 to satisfy the SI	ude and lines.	
			nities and Fi	•	· .	
		Select 6 hours from	m at least two	specific disciplines.		
ENG 307 or ENG 323 or ENG 324 or ENG 211 or HIS 211* or HIS 212* or ART 110 or MUS 120	Early and Middle English Literature or 19th-Century U.S. Literature or U.S. Literature after 1900 or World Literature: Ancient to 1600 or Survey of American History I* or Survey of American History II* or Survey of Visual Arts or Music History and Appreciation *Satisfies the State of Missouri government requirement.	6		ENGLISH 1211 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1310* or ART 1180 or MUSIC 1150	British Literature I: The Beginnings to 1800 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* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
			al and Socia			
		Select 6 hours from	m at least two	specific disciplines.		
PHI 220 or PHI 201 or PSC 201* or PSY 200 or ECON 242 or ECON 241 or Foreign Language	Intro to Philosophy or Formal Logic or National Government in the US* 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		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.	6
Electives	Maximum Free Electives	3		Electives	Maximum Free Electives	3
	Group 2 Major Requirements Group 1 Core Requirements	35 34 Total Hours 69			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 Computer Engineering degree.	32 27 59

	Electrical Eng	ineering	Group 2 Major Re	quirements	
	Spelman College		Semester	Missouri S&T	
CHE 111, 111L	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CIS 123 or CIS 131 or CIS 121*	Computer Science I: Python or Computer Science I: Matlab or Computer Science I*	4	COMP SCI 1500 or COMP SCI 1971,1981* or COMP SCI 1570, 1580*	Computational Problem Solving or Intro to Programming Methodology and Lab* or Intro to Programming (C++) and Lab* (4) "Will be substituted for COMP SCI 1500.	3
CHE 231 or BIO 120	Organic Chemistry I or Cell Biology	4	CHEM 2210, 2219* or BIO SCI 2213	Organic Chemistry I (3) and Lab* (1) or Cell Biology (3) Satisfies a required engineering/science elective. *CHEM 2219 is not a degree requirement; transfers as general elective credit.	3
MAT 214	Linear Algebra and Applications	4	MATH 3108	Linear Algebra	3
	From the 6 hours H	e options listed in ear dumanities and Fine a chavioral and Social S STORY 1200, 1300,	· ·	ide and ines.	
			nities and Fine Arts n at least two specific disciplines.		
ENG 307 or ENG 323 or ENG 324 or ENG 211 or HIS 211* or HIS 212* or ART 110 or MUS 120	Early and Middle English Literature or 19th-Century U.S. Literature or U.S. Literature or World Literature After 1900 or World Literature: Ancient to 1600 or Survey of American History I* or Survey of American History II* or Survey of Visual Arts or Music History and Appreciation *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 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 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
			al and Social Sciences		
PHI 220 or PHI 220 or PSC 201* or PSY 200 or ECON 242 or ECON 241 or Foreign Language	Intro to Philosophy or Formal Logic or National Government in the US* or General Psychology 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	n at least two specific disciplines. 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.	6
Electives	Maximum Free Electives	6	Electives	Maximum Free Electives	6
	Group 2 Major Requirements Group 1 Core Requirements	34 34 Total Hours 68		Group 2 Major Requirements Group 1 Core Requirements Total Hours *S&T advisor permission is required to transfer more than 68 credits toward the S&T Electrical Engineering degree.	32 27 5* 59

	Engineering Ma	anagemen	t Group 2 Major F	Requirements	
	Spelman College	5	Semester	Missouri S&T	
CHE 111, 111L CS 121	General Chemistry I and Lab Computer Science I	4	CHEM 1310, 1319 COMP SCI 1971, 1981	General Chemistry I and Lab Intro to Programming Method and Lab (C++)	5 3
	From the first of	ne options listed in eac Humanities and Fine Ar Behavioral and Social Sc	ciences General Education Requir th group below, select 12 hours to incl ts from at least two specific disciplines iences from at least two specific discip 10, or POL SCI 1200 to satisfy the S	lude and lines.	
			ties and Fine Arts at least two specific disciplines.		
ENG 307 or ENG 323 or ENG 324 or ENG 211 or HIS 211* or HIS 212* or ART 110 or MUS 120	Early and Middle English Literature or 19th-Century U.S. Literature or U.S. Literature After 1900 or World Literature: Ancient to 1600 or Survey of American History I* or Survey of American History II* or Survey of Visual Arts or Music History and Appreciation *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 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 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 by		and Social Sciences specific disciplines to include PSYCH	1 1101	
PSY 200	General Psychology	3	PSYCH 1101	General Psychology Required	3
PHI 220 or PHI 201 or PSC 201* or ECON 242 or ECON 241 or Foreign Language	Intro to Philosophy or Formal Logic or National Government in the US* 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 ECON 1100 or ECON 1200 or Foreign Language	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
	No free electives applied to the degree. Group 2 Major Requirements Group 1 Core Requirements	0 20 34 Total Hours 54	Electives	Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements Total Hour *S&T advisor permission is required to transfer more than 61 credits toward the S&T Engineering Management degree.	0 20 27 rs* 61

	Environmental En	gineering	Group 2 Major	Requirements	
	Spelman College		<u>ester</u>	Missouri S&T	
CHE 111, 111L	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHE 112, 112L	General Chemistry II (3) and Lab (1)	4	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 110	Biological Communities, Evolution, and Biodiversity	4	BIO SCI 1113, 1219*	General Biology (3) and Lab* (1) *The lab is not a degree requirement, transfers as general elective credit.	3
	From the o	options listed in each gr nanities and Fine Arts fro 3 hours Behavioral ORY 1200, 1300, 1310, o	ces General Education Requiroup below, select 9 hours to incom at least two specific discipline and Social Sciences. or POL SCI 1200 to satisfy the and Fine Arts	clude s and	
	Se		ast two specific disciplines.		
ENG 307 or ENG 323 or ENG 324 or ENG 211 or HIS 211* or HIS 212* or ART 110 or MUS 120	Early and Middle English Literature or 19th-Century U.S. Literature or U.S. Literature After 1900 or World Literature: Ancient to 1600 or Survey of American History I* or Survey of American History II* or Survey of Visual Arts or Music History and Appreciation "satisfies the State of Missouri government requirement.	6	ENGLISH 1211 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 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.	6
			Social Sciences 3 hours.		
PHI 220 or PHI 201 or PSC 201* or PSY 200 or ECON 242 or ECON 241 or Foreign Language	Intro to Philosophy or Formal Logic or National Government in the US* 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	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 21 34 otal Hours 55		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 Environmental Engineering degree.	0 20 27 47

	Geological Er	ıgineering Gı	oup 2 Major R	equirements	
	Spelman College	Sem	ester	Missouri S&T	
CHE 111, 111L	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CIS 123 or CIS 131 or CIS 121	Computer Science I: Python or Computer Science I: Matlab or Computer Science I	4	COMP SCI 1500 or COMP SCI 1971, 1981	Computational Problem Solving or Intro to Programming Methodology and Lab	3
	From t 6 hours	he options listed in each gr Humanities and Fine Arts fro Behavioral and Social Science HSTORY 1200, 1300, 1310, o		elude and Jines.	
			and Fine Arts ast two specific disciplines.		
ENG 307 or ENG 323 or ENG 324 or ENG 211 or HIS 211* or HIS 212* or ART 110 or MUS 120	Early and Middle English Literature or 19th-Century U.S. Literature or U.S. Literature After 1900 or World Literature: Ancient to 1600 or Survey of American History I* or Survey of American History II* or Survey of Wisual Arts or Music History and Appreciation *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 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 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
		Behavioral and	Social Sciences		
		Select 6 hours from at lea	ast two specific disciplines.		
PHI 220 or PHI 201 or PSC 201* or PSY 200 or ECON 242 or ECON 241 or Foreign Language	Intro to Philosophy or Formal Logic or National Government in the US* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satsties the State of Missouri government requirement.	6	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.	6
			and Social Sciences 3 hours.		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any music, theater, English and technical communica philosophy, political science, psychology, econom etymology, or foreign language.	tion,	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 23 34 Total Hours 57		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 23 27 s* 50

	Mechanical Eng	ineering C	Group 2 Major R	equirements	
	Spelman College	<u>Sei</u>	<u>nester</u>	Missouri S&T	
CHE 111, 111L	General Chemistry I and Lab	4	CHEM 1310*, 1319	General Chemistry I and Lab pending approval *CHEM 1310 will be substituted for CHEM 1305.	5
CS 121	Computer Science I	4	COMP SCI 1971, 1981	Intro to Programming Method and Lab (C++)	3
MAT 214	Linear Algebra and Applications	4	MATH 3108	Linear Algebra I Satisfies the Advanced Math/Statistics elective requirement.	3
	From the c 6 hours Hui	options listed in each on manities and Fine Arts favioral and Social Scier ORY 1200, 1300, 1310	•	ements ude and lines.	
	0		s and Fine Arts		
ENG 307 or ENG 323 or ENG 324 or ENG 211 or HIS 211* or HIS 212* or ART 110 or MUS 120	Early and Middle English Literature or 19th-Century U.S. Literature or U.S. Literature After 1900 or World Literature: Ancient to 1600 or Survey of American History I* or Survey of American History II* or Survey of Visual Arts or Music History and Appreciation *Satisfies the State of Missourl government requirement.	6	east two specific disciplines. ENGLISH 1211 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 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
			d Social Sciences		
PHI 220 or PHI 201 or PSC 201* or PSY 200 or ECON 242 or ECON 241 or Foreign Language	Intro to Philosophy or Formal Logic or National Government in the US* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	elect 6 hours from at I	east two specific disciplines. 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.	6
			, and Social Sciences et 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.		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 T	0 27 34 otal 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 26 27 53

	Metallurgical En	gineering	Group 2 Major	Requirements	
	Spelman College	S	emester	Missouri S&T	
CHE 111, 111L	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHE 112, 112L	General Chemistry II (3) and Lab (1)	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) *CHEM 1510 is not an S&T degree requirement; transfer as general credit.	3
CHE 231 or CHE 421 or CHE 345 or MAT 367	Organic Chemistry I (4) or Inorganic Chemistry (3) or Physical Chemistry (3) or Applied Mathematics (4)	3	CHEM 2210 or CHEM 2310 or CHEM 3410 or MATH 5325	Organic Chemistry I (4) or Inorganic Chemistry I (3) or Chemical Thermodynamics I (3) or Partial Differential Equations (3) Not specifically required for the degree but will satisfy Out-of-Department Technical Elective Requirement.	3
	Humanities,	Arts, and Social So	iences General Education Requi	irements	
	6 hours Hu	umanities and Fine Ar	th group below, select 15 hours to inc ts from at least two specific disciplines diences from at least two specific disci	s and	
	*At least one course must be selected from HIS	TORY 1200, 1300, 13	110, or POL SCI 1200 to satisfy the	State of Missouri government requirement.	
	Ş		ties and Fine Arts at least two specific disciplines.		
ENG 307 or ENG 323 or ENG 324 or ENG 211 or HIS 211* or HIS 212* or ART 110 or MUS 120	Early and Middle English Literature or 19th-Century U.S. Literature or U.S. Literature After 1900 or World Literature: Ancient to 1600 or Survey of American History I* or Survey of Merican History II* or Survey of Visual Arts or Music History and Appreciation *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 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 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 \$\frac{4}{3}\text{tsiles the State of Missouri government requirement.}	6
		Behavioral	and Social Sciences		
	\$	Select 6 hours from a	at least two specific disciplines.		
PHI 220 or PHI 201 or PSC 201* or PSY 200 or ECON 242 or ECON 241 or Foreign Language	Intro to Philosophy or Formal Logic or National Government in the US* 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	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.	6
		,	rts, and Social Sciences		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any hist music, theater, English and technical communicatior philosophy, political science, psychology, economics etymology, or foreign language.	tory, 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
	Maximum Free Electives	3		Maximum Free Electives	3
	Group 2 Major Requirements	29		Group 2 Major Requirements	29
	Group 1 Core Requirements	34 Total Hours 63		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.	27 s* 56

	Mining Engi	neering G	roup 2 Major Re	quirements	
	Spelman College	5	Semester	Missouri S&T	
CHE 111, 111L	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
			ciences General Education Requ		
			ch group below, select 12 hours to in rts from at least two specific discipline		
			ciences from at least two specific discipline		
	*At least one course must be selected from H				
		Human	ities and Fine Arts		
		Select 6 hours from	at least two specific disciplines.		
ENG 307 or	Early and Middle English Literature or		ENGLISH 1211 or	British Literature I: The Beginnings to 1800 or	
ENG 323 or	19th-Century U.S. Literature or		ENGLISH 1221 or	American Literature: 1600 to 1865 or	
ENG 324 or	U.S. Literature After 1900 or		ENGLISH 1222 or	American Literature: 1865 to Present or	
ENG 211 or HIS 211* or	World Literature: Ancient to 1600 or	6	ENGLISH 1231 or HISTORY 1300* or	World Literature I: Beginnings to the Renaissance or	6
HIS 211* or	Survey of American History I* or Survey of American History II* or	O	HISTORY 1300" or	American History to 1877* or American History Since 1877* or	O
ART 110 or	Survey of Visual Arts or		ART 1180 or	Art Appreciation or	
MUS 120	Music History and Appreciation		MUSIC 1150	Music Understanding and Appreciation	
	*Satisfies the State of Missouri government requirement.			*Satisfies the State of Missouri government requirement.	
			and Social Sciences		
		Select 6 hours from	at least two specific disciplines.		
PHI 220 or	Intro to Philosophy or		PHILOS 1105 or	Self and World: Intro to Philosophy or	
PHI 201 or PSC 201* or	Formal Logic or National Government in the US* or		PHILOS 1115 or POL SCI 1200* or	Logic and Reasoning: An Introduction or American Government*or	
PSC 201° or PSY 200 or	General Psychology or		POL SCI 1200° or PSYCH 1101 or	General Psychology or	
ECON 242 or	Principles of Microeconomics or	6	ECON 1100 or	Principles of Microeconomics or	6
ECON 241 or	Principles of Macroeconomics or		ECON 1200 or	Principles of Macroeconomics or	
Foreign Language	Elementary or Intermediate Foreign Language		Foreign Language	Elementary or Intermediate Foreign Language	
	*Satisfies the State of Missouri government requirement.			*Satisfies the State of Missouri government requirement.	
	No free electives applied to the degree.	0		Maximum Free Electives	0
	Group 2 Major Requirements	16		Group 2 Major Requirements	17
	Group 1 Core Requirements	34		Group 1 Core Requirements	27
		Total Hours 50		Total *S&T advisor permission is required to transfer more than 68 credits toward the S Mining Engineering degree.	Hours* 44

	Nuclear Engineer	ring	•			
0115 444 4441	Spelman College		<u>Semester</u>		Missouri S&T	_
CHE 111, 111L CS 121	General Chemistry I and Lab	4		CHEM 1310, 1319	General Chemistry I and Lab Intro to Programming Method and Lab (C++) (3).	5 3
MAT 214 or	Computer Science I Linear Algebra and Applications or	4		COMP SCI 1971, 1981 MATH 3108 or	Linear Algebra or	3
MAT 233	Foundations of Mathematics	4		MATH 3109	Foundations of Mathematics	3
	From the options 6 hours Humanitie	s listed in s and Fin and Socia 200, 1300	each group be e Arts from at le al Sciences from 0, 1310, or POI	•	rde and nes.	
			anities and F			
		hours fro	om at least two	o specific disciplines.		
ENG 307 or ENG 323 or ENG 324 or ENG 211 or HIS 211* or HIS 212* or ART 110 or MUS 120	Early and Middle English Literature or 19th-Century U.S. Literature or U.S. Literature or U.S. Literature or U.S. Literature After 1900 or World Literature: Ancient to 1600 or Survey of American History I* or Survey of American History II* or Survey of Visual Arts or Music History and Appreciation *Satisfies the State of Missouri government requirement.	6		ENGLISH 1211 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 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
		Behavio	oral and Socia	al Sciences		
	Select 6	hours fro	om at least two	o specific disciplines.		
ECON 242 or ECON 241	Principles of Microeconomics or Principles of Macroeconomics	3		ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3
PHI 220 or PHI 201 or PSC 201* or PSY 200 or Foreign Language	Intro to Philosophy or Formal Logic or National Government in the US* or General Psychology 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 Foreign Language	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
	Hu	ımanities	s, Arts, and S Select 3 hou	ocial Sciences rs.		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3		HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
	Maximum Free Electives	0			Maximum Free Electives	0
	Group 2 Major Requirements	27			Group 2 Major Requirements	26
	Group 1 Core Requirements Total Ho	34 ours 61			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.	27 53

	Petroleum Engineer	ring Gro	oup 2 Major R	equirements	
	Spelman College	Seme	ster	Missouri S&T	
CHE 111, 111L	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CIS 123 or CIS 131	Computer Science I: Python or Computer Science I: Matlab	4	COMP SCI 1500	Computational Problem Solving	3
	From the options lis 6 hours Humanities a	ted in each ground nd Fine Arts from d Social Sciences	es General Education Requi up below, select 15 hours to in- n at least two specific disciplines from at least two specific disci POL SCI 1200 to satisfy the	clude s and iplines.	
		Humanities ar			
	Select 6 ho		st two specific disciplines.		
ENG 307 or ENG 323 or ENG 324 or ENG 211 or HIS 211* or HIS 212* or ART 110 or MUS 120	Early and Middle English Literature or 19th-Century U.S. Literature or U.S. Literature or U.S. Literature After 1900 or World Literature: Ancient to 1600 or Survey of American History I* or Survey of American History II* or Survey of Visual Arts or Music History and Appreciation *Satisfies the State of Missouri government requirement.	6 ehavioral and S	ENGLISH 1211 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 Social Sciences st two specific disciplines. PHILOS 1105 or PHILOS 1115 or	British Literature I: The Beginnings to 1800 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* or Art Appreciation or Music Understanding and Appreciation "Satisfies the State of Missouri government requirement. Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or	6
PSC 201* or PSY 200 or ECON 242 or ECON 241 or Foreign Language	National Government in the US* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfes the State of Missouri government requirement.	6	POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	American Government*or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfes the State of Missouri government requirement.	6
	Huma	anities, Arts, an Select 3	nd Social Sciences		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
	No free electives applied to the degree. Group 2 Major Requirements Group 1 Core Requirements Total Hours	0 23 34 s 57		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 Petroleum Engineering degree.	0 23 27 50