

Principia 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.

Principia College			Semester	Missouri S&T		
MATH 181 and MATH 182	Calculus I and Calculus II	8		MATH 1214 and MATH 1215	Calculus I and Calculus II <small>The combination of Principia MATH 181 and 182 is equivalent to the combination of S&T MATH 1214 and 1215. A grade of C or better in both courses is required.</small>	8
MATH 283	Multivariable Calculus	4		MATH 2222	Calculus III <small>Grade of C or better is required.</small>	4
MATH 284	Differential Equations	3		MATH 3304	Elementary Differential Equations	3
PHYS 201 and PHYS 202 and PHYS 203 and PHYS 204	Physics for Scientists and Engineers I (4) and Physics for Scientists and Engineers II (4) and Physics for Scientists and Engineers III (4) and Physics for Scientists and Engineers IV (5)	17		PHYSICS 1135 and PHYSICS 2135	Engineering Physics I and Engineering Physics II* <small>*The combination of PHYS 201, 202, 203, and 204 is equivalent to the combination of PHYSICS 1135 and 2135. A grade of C or better in all courses is required.</small>	8
ENGR 160	Intro to the Engineering Profession	2		FR ENG 1100	Study and Careers in Engineering and Computing	1
WRIT 151	Fundamentals of Academic Writing	3		ENGLISH 1120	Exposition and Argumentation	3
		Total Hours	37			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 Engineering Group 2 Major Requirements

<u>Principia College</u>			<u>Semester</u>	<u>Missouri S&T</u>		
GEN 101 or WRIT 158 or MCOM 140	FYE: Integrated Learning or Reading and Writing Inquiry or Public Speaking	3		ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHEM 131	Fundamentals of Chemistry I	4		CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
CSCI 171	Intro to Programming	4		COMP SCI 1971, 1981	Intro to Programming Method and Lab (C++)	3
ENGR 206	Electrical Engineering Circuit Analysis	4		ELEC ENG 2800	Electrical Circuits	3
ENGR 201	Engineering Mechanics: Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 203	Mechanics of Materials	3		CIV ENG 2210	Mechanics of Materials	3
MATH 273 or MATH 364	Linear Algebra or Mathematical Statistics	3		MATH 3108 or STAT 3117*	Linear Algebra I or Intro to Probability and Statistics* <small>*Will be substituted for STAT 3115 to satisfy the Advanced Math/Comp Sci elective requirement.)</small>	3
Ethics	Ethics Elective <small>Engineering, business, bio, social or other ethics approved by advisor.</small>	3		Ethics	Ethics Elective <small>Engineering, business, bio, social or other ethics approved by advisor.</small>	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.						
ENGL 256 or MUS 100	U.S. Literature to 1860 or Intro to the Art of Music	6		ENGLISH 1221 or MUSIC 1150	American Literature: 1600 to 1865 or Music Understanding and Appreciation	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.						
PHIL 150 or PHIL 120 or POLS 120* or ECON 203 or ECON 204 or Foreign Language	Intro to Philosophy or Critical Thinking or American Government and Politics* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6		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 <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences Select 3 hours.						
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	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
<i>No free electives applied to the degree.</i>		0		Maximum Free Electives		0
Group 2 Major Requirements		42		Group 2 Major Requirements		41
Group 1 Core Requirements		37		Group 1 Core Requirements		27
Total Hours		79				Total Hours*
						68
						<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Aerospace Engineering degree.</small>

Architectural Engineering Group 2 Major Requirements

Principia College		Semester	Missouri S&T		
GEN 101 or WRIT 158 or MCOM 140	FYE: Integrated Learning or Reading and Writing Inquiry or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHEM 131	Fundamentals of Chemistry I	4	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
ENGR 201	Engineering Mechanics: Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 202	Engineering Mechanics: Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
ENGR 203	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
MATH 364	Mathematical Statistics	3	STAT 3117*	Intro to Probability and Statistics <small>*Will be substituted for STAT 3113.</small>	3
GEO 111	Introductory Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 9 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 3 hours Behavioral and Social Sciences. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 256 or MUS 100	U.S. Literature to 1860 or Intro to the Art of Music	6	ENGLISH 1221 or MUSIC 1150	American Literature: 1600 to 1865 or Music Understanding and Appreciation	6
Behavioral and Social Sciences Select 3 hours.					
PHIL 150 or PHIL 120 or POLS 120* or ECON 203 or ECON 204 or Foreign Language	Intro to Philosophy or Critical Thinking or American Government and Politics* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	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 <small>*Satisfies the State of Missouri government requirement.</small>	3
No free electives applied to the degree.		0	Maximum Free Electives		0
Group 2 Major Requirements		32	Group 2 Major Requirements		31
Group 1 Core Requirements		37	Group 1 Core Requirements		27
Total Hours		69			Total Hours* 58
<small>*S&T advisor permission is required to transfer more than 69 credits toward the S&T Architectural Engineering degree.</small>					

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

**Biomedical Engineering-Biomanufacturing
Group 2 Major Requirements**

Principia College		Semester	Missouri S&T		
MCOM 140	Public Speaking	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 131	Fundamentals of Chemistry I	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 132	Fundamentals of Chemistry II	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 262	Organic Chemistry I	4	CHEM 2210, 2219	Organic Chemistry I and Lab	4
CHEM 263	Organic Chemistry II	4	CHEM 2220, 2229	Organic Chemistry II and Lab Applies to degree as Track Elective.	4
CSCI 171	Intro to Programming	3	COMP SCI 1971*, 1981*	Intro to Programming Method and Lab* (C++) *Course will be substituted for CS 1500	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 9 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 3 hours Behavioral and Social Sciences. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 256 or MUS 100	U.S. Literature to 1860 or Intro to the Art of Music	6	ENGLISH 1221 or MUSIC 1150	American Literature: 1600 to 1865 or Music Understanding and Appreciation	6
Behavioral and Social Sciences Select 3 hours.					
POLS 120* or ECON 203 or ECON 204 or Foreign Language	American Government and Politics* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3	POL SCI 1200* or ECON 1100 or ECON 1200 or Foreign Language	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.		0	Maximum Free Electives		0
Group 2 Major Requirements		31	Group 2 Major Requirements		31
Group 1 Core Requirements		37	Group 1 Core Requirements		27
Total Hours		68			Total Hours*
					58
*S&T advisor permission is required to transfer more than 69 credit hours toward the degree.					

Biomedical Engineering-Biomaterials Group 2 Major Requirements

<u>Principia College</u>			<u>Semester</u>	<u>Missouri S&T</u>		
MCOM 140	Public Speaking	3		SP&MS 1185	Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHEM 131	Fundamentals of Chemistry I	4		CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 132	Fundamentals of Chemistry II	4		CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not a degree requirement, transfers as general elective credit.</small>	3
CHEM 262	Organic Chemistry I	4		CHEM 2210, 2219*	Organic Chemistry I and Lab* <small>*CHEM 2219 Lab applies to the degree as a Track Elective (non-engineering).</small>	4
CHEM 263	Organic Chemistry II	4		CHEM 2220, 2229*	Organic Chemistry II and Lab* <small>CHEM 2229 Lab applies to the degree as a Track Elective (non-engineering).</small>	4
CSCI 171	Intro to Programming	3		COMP SCI 1971*, 1981*	Intro to Programming Method and Lab* (C++) <small>*Course will be substituted for CS 1500</small>	3
ENGR 201	Engineering Mechanics: Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 206	Electrical Engineering Circuit Analysis	4		ELEC ENG 2100*, 2101	Circuits I* (3) and Circuit Analysis Lab (1) <small>*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).</small>	4
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 9 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 3 hours Behavioral and Social Sciences. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.						
ENGL 256 or MUS 100	U.S. Literature to 1860 or Intro to the Art of Music	6		ENGLISH 1221 or MUSIC 1150	American Literature: 1600 to 1865 or Music Understanding and Appreciation	6
Behavioral and Social Sciences Select 3 hours.						
POLS 120* or ECON 203 or ECON 204 or Foreign Language	American Government and Politics* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3		POL SCI 1200* or ECON 1100 or ECON 1200 or Foreign Language	American Government* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3
<i>No free electives applied to the degree.</i>		0		Maximum Free Electives		0
Group 2 Major Requirements		38		Group 2 Major Requirements		38
Group 1 Core Requirements		37		Group 1 Core Requirements		27
Total Hours		75		Total Hours*		65

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

Ceramic Engineering Group 2 Major Requirements

Principia College		Semester	Missouri S&T		
GEN 101 or WRIT 158 or MCOM 140	FYE: Integrated Learning or Reading and Writing Inquiry or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
ENGR 201	Engineering Mechanics: Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 203	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
CHEM 131	Fundamentals of Chemistry I	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 132	Fundamentals of Chemistry II	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not a degree requirement, transfers as general elective credit.</small>	3
CHEM 262	Organic Chemistry I	4	CHEM 2210	Organic Chemistry I (3) and Lab* (1) <small>Satisfies the advanced chemistry elective requirement. *The lab is not a degree requirement, transfers as general elective credit.</small>	3
MATH 364	Mathematical Statistics	3	STAT 3117	Intro to Probability and Statistics <small>or any statistics course 3000-level or higher. Satisfies statistics elective requirement.</small>	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 256 or MUS 100	U.S. Literature to 1860 or Intro to the Art of Music	6	ENGLISH 1221 or MUSIC 1150	American Literature: 1600 to 1865 or Music Understanding and Appreciation	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
PHIL 150 or PHIL 120 or POLS 120* or ECON 203 or ECON 204 or Foreign Language	Intro to Philosophy or Critical Thinking or American Government and Politics* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	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 <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	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		39	Group 2 Major Requirements		38
Group 1 Core Requirements		37	Group 1 Core Requirements		27
Total Hours		76			Total Hours* 65
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Ceramic Engineering degree.</small>					

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

Principia College		Semester	Missouri S&T			
MCOM 140	Public Speaking	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3	
CHEM 131	Fundamentals of Chemistry I	4	CHEM 1310, 1319	General Chemistry I and Lab	5	
CHEM 132	Fundamentals of Chemistry II	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 262	Organic Chemistry I	4	CHEM 2210, 2219*	Organic Chemistry I and Lab* *CHEM 2210 is a degree requirement. CHEM 2219 applies to the degree as 1 of 9 required science elective credits. See note below .	4	
CHEM 263	Organic Chemistry II	4	CHEM 2220, 2229*	Organic Chemistry II (3) and Lab* (1) CHEM 2220 applies to the degree as 3 of 9 required science elective credits. *CHEM 2229 is not a degree requirement; transfers as general elective credit.	8	
CSCI 171	Intro to Programming	3	COMP SCI 1971*, 1981*	Intro to Programming Method and Lab* (C++) *Course will be substituted for CS 1500	3	
MATH 364	Mathematical Statistics	3	STAT 3117*	Intro to Probability and Statistics *Will be substituted for STAT 3113.	3	
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 12 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.						
ENGL 256 or MUS 100	U.S. Literature to 1860 or Intro to the Art of Music	6	ENGLISH 1221 or MUSIC 1150	American Literature: 1600 to 1865 or Music Understanding and Appreciation	6	
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.						
PHIL 150 or PHIL 120 or POLS 120* or ECON 203 or ECON 204 or Foreign Language	Intro to Philosophy or Critical Thinking or American Government and Politics* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	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.	6	
No free electives applied to the degree.		0	Maximum Free Electives		0	
Group 2 Major Requirements		37	Group 2 Major Requirements		41	
Group 1 Core Requirements		37	Group 1 Core Requirements		27	
Total Hours		74			Total Hours*	68
*S&T advisor permission is required to transfer more than 68 credits toward the S&T Chemical Engineering degree.						

Civil Engineering Group 2 Major Requirements

Principia College		Semester	Missouri S&T			
GEN 101 or WRIT 158 or MCOM 140	FYE: Integrated Learning or Reading and Writing Inquiry or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3	
CHEM 131	Fundamentals of Chemistry I	4	CHEM 1310, 1319	General Chemistry I and Lab	5	
ERTH 111	Introductory Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3	
ENGR 201	Engineering Mechanics: Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3	
ENGR 202	Engineering Mechanics: Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2	
ENGR 203	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3	
MATH 364	Mathematical Statistics	3	STAT 3117*	Intro to Probability and Statistics <small>*Will be substituted for STAT 3113.</small>	3	
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.						
ENGL 256 or MUS 100	U.S. Literature to 1860 or Intro to the Art of Music	6	ENGLISH 1221 or MUSIC 1150	American Literature: 1600 to 1865 or Music Understanding and Appreciation	6	
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.						
PHIL 150 or PHIL 120 or POLS 120* or ECON 203 or ECON 204 or Foreign Language	Intro to Philosophy or Critical Thinking or American Government and Politics* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	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 <small>*Satisfies the State of Missouri government requirement.</small>	6	
Humanities, Arts, and Social Sciences Select 3 hours.						
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	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		38	Group 2 Major Requirements		37	
Group 1 Core Requirements		37	Group 1 Core Requirements		27	
Total Hours		75			Total Hours*	64
<small>*S&T advisor permission is required to transfer more than 69 credits toward the S&T Civil Engineering degree.</small>						

Computer Engineering Group 2 Major Requirements

Principia College			Semester	Missouri S&T	
MCOM 140	Public Speaking	3	SPMS 1185	Principles of Speech	3
CHEM 131	Fundamentals of Chemistry I	4	CHEM 1310, 1319	General Chemistry I and Lab	5
MATH 261	Discrete Math	3	CS 1200	Discrete Math for Computer Science	3
CSCI 171	Intro to Programming	4	COMP SCI 1971,1981*	Intro to Programming Methodology and Lab*	3
ENGR 201 or ENGR 202 or CHEM 262	Engineering Mechanics: Statics or Engineering Mechanics: Dynamics or Organic Chemistry I	3	CIV ENG 2200 or MECH ENG 2350 or CHEM 2210	Engineering Mechanics-Statics (3) or Engineering Mechanics-Dynamics (2) or Organic Chemistry I (3)	3
ENGR 206	Electrical Engineering Circuit Analysis	4	EE 2100**	Circuits I **A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for EE 2100.	4
MATH 273	Linear Algebra	3	MATH 3108	Linear Algebra	3
MATH 364	Mathematical Statistics	3	STAT 3117	Intro to Probability and Statistics	3
Humanities, Arts, and Social Sciences General Education Requirements					
From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.					
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts					
Select 6 hours from at least two specific disciplines.					
ENGL 256 or MUS 100	U.S. Literature to 1860 or Intro to the Art of Music	6	ENGLISH 1221 or MUSIC 1150	American Literature: 1600 to 1865 or Music Understanding and Appreciation	6
Behavioral and Social Sciences					
Select 6 hours from at least two specific disciplines.					
PHIL 150 or PHIL 120 or POLS 120* or ECON 203 or ECON 204 or Foreign Language	Intro to Philosophy or Critical Thinking or American Government and Politics* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	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.	6
Humanities, Arts, and Social Sciences					
Select 3 hours.					
GEN 101 or WRIT 158	FYE: Integrated Learning or Reading and Writing Inquiry	3	ENGLISH 1160	Writing and Research	3
Electives	Maximum Free Electives	3	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	45		Group 2 Major Requirements	45
	Group 1 Core Requirements	37		Group 1 Core Requirements	27
	Total Hours	82			Total Hours*
					72
				*S&T advisor permission is required to transfer more than 68 credits toward the S&T Computer Engineering degree.	

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Electrical Engineering Group 2 Major Requirements

<u>Principia College</u>			<u>Semester</u>	<u>Missouri S&T</u>	
MCOM 140	Public Speaking	3	SPMS 1185	Principles of Speech	3
CHEM 131	Fundamentals of Chemistry I	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CSCI 171	Intro to Programming	4	COMP SCI 1971,1981*	Intro to Programming Methodology and Lab*	3
ENGR 201 and ENGR 202 BOTH of the courses above or ONE of the courses below. OR CHEM 262	Engineering Mechanics: Statics and Engineering Mechanics: Dynamics Both courses combined will satisfy a required engineering science elective. OR Organic Chemistry I	3	CIV ENG 2200 and MECH ENG 2350 BOTH of the courses above or ONE of the courses below. OR CHEM 2210, 2219*	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (2) Both courses combined will satisfy a required engineering science elective. OR Organic Chemistry I (3) and Lab* (1) *CHEM 2219 is not a degree requirement; transfers as general elective credit.	3
ENGR 206	Electrical Engineering Circuit Analysis	4	EE 2100**	Circuits I **A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for EE 2100.	4
MATH 273	Linear Algebra	3	MATH 3108	Linear Algebra	3
MATH 364	Mathematical Statistics	3	STAT 3117	Intro to Probability and Statistics	3
Humanities, Arts, and Social Sciences General Education Requirements					
From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.					
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts					
Select 6 hours from at least two specific disciplines.					
ENGL 256 or MUS 100	U.S. Literature to 1860 or Intro to the Art of Music	6	ENGLISH 1221 or MUSIC 1150	American Literature: 1600 to 1865 or Music Understanding and Appreciation	6
Behavioral and Social Sciences					
Select 6 hours from at least two specific disciplines.					
PHIL 150 or PHIL 120 or POLS 120* or ECON 203 or ECON 204 or Foreign Language	Intro to Philosophy or Critical Thinking or American Government and Politics* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	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.	6
Humanities, Arts, and Social Sciences					
Select 3 hours.					
GEN 101 or WRIT 158	FYE: Integrated Learning or Reading and Writing Inquiry	3	ENGLISH 1160	Writing and Research	3
Electives	Maximum Free Electives	6	Electives	Maximum Free Electives	6
	Group 2 Major Requirements	45		Group 2 Major Requirements	45
	Group 1 Core Requirements	37		Group 1 Core Requirements	27
	Total Hours	82			Total Hours*
				*S&T advisor permission is required to transfer more than 68 credits toward the S&T Electrical Engineering degree.	

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

Engineering Management Group 2 Major Requirements

Principia College			Semester	Missouri S&T		
MCOM 140	Public Speaking	3	SPMS 1185	Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3	
CHEM 131	Fundamentals of Chemistry I	4	CHEM 1310, 1319	General Chemistry I and Lab	5	
CSCI 171	Intro to Programming	3	COMP SCI 1971, 1981	Intro to Programming Method and Lab (C++)	3	
ENGR 206	Electrical Engineering Circuit Analysis	4	ELEC ENG 2800	Electrical Circuits	3	
ENGR 201	Engineering Mechanics: Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3	
ENGR 202	Engineering Mechanics: Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2	
ENGR 203	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3	
MATH 364	Mathematical Statistics	3	STAT 3117	Intro to Probability and Statistics	3	
Humanities, Arts, and Social Sciences General Education Requirements						
From the options listed in each group below, select 12 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 3 hours Behavioral and Social Sciences.						
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts						
Select 6 hours from at least two specific disciplines.						
ENGL 256 or MUS 100	U.S. Literature to 1860 or Intro to the Art of Music	6	ENGLISH 1221 or MUSIC 1150	American Literature: 1600 to 1865 or Music Understanding and Appreciation	6	
Behavioral and Social Sciences						
Select 3 hours.						
PHIL 150 or PHIL 120 or POLS 120* or ECON 203 or ECON 204 or Foreign Language	Intro to Philosophy or Critical Thinking or American Government and Politics* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	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 <small>*Satisfies the State of Missouri government requirement.</small>	3	
Humanities, Arts, and Social Sciences						
Select 3 hours.						
GEN 101 or WRIT 158	FYE: Integrated Learning or Reading and Writing Inquiry	3	ENGLISH 1160	Writing and Research	3	
No free electives applied to the degree.		0	Electives	Maximum Free Electives	0	
Group 2 Major Requirements		38	Group 2 Major Requirements		37	
Group 1 Core Requirements		37	Group 1 Core Requirements		27	
Total Hours		75			Total Hours*	61
<small>*S&T advisor permission is required to transfer more than 61 credits toward the S&T Engineering Management degree.</small>						

Environmental Engineering Group 2 Major Requirements

Principia College		Semester	Missouri S&T		
GEN 101 or WRIT 158 or MCOM 140	FYE: Integrated Learning or Reading and Writing Inquiry or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
ERTH 111	Introductory Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
CHEM 131	Fundamentals of Chemistry I	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 132	Fundamentals of Chemistry II	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
ENGR 201	Engineering Mechanics: Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 202	Engineering Mechanics: Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
ENGR 203	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
MATH 364	Mathematical Statistics	3	STAT 3117*	Intro to Probability and Statistics *Will be substituted for STAT 3113.	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 9 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 3 hours Behavioral and Social Sciences. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 256 or MUS 100	U.S. Literature to 1860 or Intro to the Art of Music	6	ENGLISH 1221 or MUSIC 1150	American Literature: 1600 to 1865 or Music Understanding and Appreciation	6
Behavioral and Social Sciences Select 3 hours.					
PHIL 150 or PHIL 120 or POLS 120* or ECON 203 or ECON 204 or Foreign Language	Intro to Philosophy or Critical Thinking or American Government and Politics* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3	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.	0		Maximum Free Electives	0
	Group 2 Major Requirements	36		Group 2 Major Requirements	34
	Group 1 Core Requirements	37		Group 1 Core Requirements	27
	Total Hours	73		Total Hours*	61
*S&T advisor permission is required to transfer more than 69 credits toward the S&T Environmental Engineering degree.					

Geological Engineering Group 2 Major Requirements

Principia College		Semester	Missouri S&T		
CHEM 131	Fundamentals of Chemistry I	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CSCI 171	Intro to Programming	3	COMP SCI 1971, 1981	Intro to Programming Method and Lab (C++)	3
ERTH 111	Introductory Geology	4	GEO ENG 1150 (GEOLOGY 1110)	Physical and Environmental Geology	3
ENGR 201	Engineering Mechanics: Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 202	Engineering Mechanics: Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
ENGR 203	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
MATH 364	Mathematical Statistics	3	STAT 3117*	Intro to Probability and Statistics	3
*STAT 3113 or 3115 is preferred, STAT 3117 will be accepted.					
Humanities, Arts, and Social Sciences General Education Requirements					
From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.					
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts					
Select 6 hours from at least two specific disciplines.					
ENGL 256 or MUS 100	U.S. Literature to 1860 or Intro to the Art of Music	6	ENGLISH 1221 or MUSIC 1150	American Literature: 1600 to 1865 or Music Understanding and Appreciation	6
Behavioral and Social Sciences					
Select 6 hours from at least two specific disciplines.					
PHIL 150 or PHIL 120 or POLS 120* or ECON 203 or ECON 204 or Foreign Language	Intro to Philosophy or Critical Thinking or American Government and Politics* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	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.	6
Humanities, Arts, and Social Sciences					
Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	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		38	Group 2 Major Requirements		37
Group 1 Core Requirements		37	Group 1 Core Requirements		27
Total Hours		75	Total Hours*		64
*S&T advisor permission is required to transfer more than 65 credits toward the S&T Geological Engineering degree.					

Mechanical Engineering Group 2 Major Requirements

Principia College		Semester	Missouri S&T			
GEN 101 or WRIT 158 or MCOM 140	FYE: Integrated Learning or Reading and Writing Inquiry or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3	
CHEM 131	Fundamentals of Chemistry I	4	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5	
CSCI 171	Intro to Programming	3	COMP SCI 1971, 1981	Intro to Programming Method and Lab (C++)	3	
ENGR 206	Electrical Engineering Circuit Analysis	4	ELEC ENG 2800	Electrical Circuits	3	
ENGR 201	Engineering Mechanics: Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3	
ENGR 203	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3	
MATH 273 or MATH 364	Linear Algebra or Mathematical Statistics	3	MATH 3108 or STAT 3117*	Linear Algebra I or Intro to Probability and Statistics* <small>*Will be substituted for STAT 3115 to satisfy the Advanced Math/Comp Sci elective requirement.)</small>	3	
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.						
ENGL 256 or MUS 100	U.S. Literature to 1860 or Intro to the Art of Music	6	ENGLISH 1221 or MUSIC 1150	American Literature: 1600 to 1865 or Music Understanding and Appreciation	6	
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.						
PHIL 150 or PHIL 120 or POLS 120* or ECON 203 or ECON 204 or Foreign Language	Intro to Philosophy or Critical Thinking or American Government and Politics* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	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 <small>*Satisfies the State of Missouri government requirement.</small>	6	
Humanities, Arts, and Social Sciences Select 3 hours.						
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	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		38	Group 2 Major Requirements		38	
Group 1 Core Requirements		37	Group 1 Core Requirements		27	
Total Hours		75			Total Hours*	65
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Mechanical Engineering degree.</small>						

Metallurgical Engineering Group 2 Major Requirements

Principia College		Semester	Missouri S&T		
GEN 101 or WRIT 158 or MCOM 140	FYE: Integrated Learning or Reading and Writing Inquiry or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
MATH 364	Mathematical Statistics	3	STAT 3117*	Intro to Probability and Statistics <small>*Will be substituted for STAT 3113.</small>	3
ENGR 201	Engineering Mechanics: Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 203	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3
CHEM 131	Fundamentals of Chemistry I	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 132	Fundamentals of Chemistry II	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not a degree requirement, transfers as general elective credit.</small>	3
CHEM 262 or ENGR 206	Organic Chemistry I or Electrical Engineering Circuit Analysis	4	CHEM 2210, 2219* or ELEC ENG 2800	Organic Chemistry I (3) and Lab* (1) or Electrical Circuits (3) or <small>Not specifically required for the degree but satisfies out-of-department technical elective requirement *CHEM 2219 is not a degree requirement; transfers as general elective credit.</small>	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 256 or MUS 100	U.S. Literature to 1860 or Intro to the Art of Music	6	ENGLISH 1221 or MUSIC 1150	American Literature: 1600 to 1865 or Music Understanding and Appreciation	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
PHIL 150 or PHIL 120 or POLS 120* or ECON 203 or ECON 204 or Foreign Language	Intro to Philosophy or Critical Thinking or American Government and Politics* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	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 <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	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		41
Group 1 Core Requirements		37	Group 1 Core Requirements		27
Total Hours		79	Total Hours*		68
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Metallurgical Engineering degree.</small>					

Mining Engineering Group 2 Major Requirements

<u>Principia College</u>		<u>Semester</u>	<u>Missouri S&T</u>			
GEN 101 or WRIT 158 or MCOM 140	FYE: Integrated Learning or Reading and Writing Inquiry or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3	
MATH 364	Mathematical Statistics	3	STAT 3117*	Intro to Probability and Statistics <small>*Will be substituted for STAT 3113.</small>	3	
CHEM 131	Fundamentals of Chemistry I	4	CHEM 1310, 1319	General Chemistry I and Lab	5	
ENGR 201	Engineering Mechanics: Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3	
ENGR 202	Engineering Mechanics: Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2	
ENGR 203	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3	
ERTH 111	Introductory Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3	
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 12 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.						
ENGL 256 or MUS 100	U.S. Literature to 1860 or Intro to the Art of Music	6	ENGLISH 1221 or MUSIC 1150	American Literature: 1600 to 1865 or Music Understanding and Appreciation	6	
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.						
PHIL 150 or PHIL 120 or POLS 120* or ECON 203 or ECON 204 or Foreign Language	Intro to Philosophy or Critical Thinking or American Government and Politics* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	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 <small>*Satisfies the State of Missouri government requirement.</small>	6	
<i>No free electives applied to the degree.</i>		0	Maximum Free Electives		0	
Group 2 Major Requirements		35	Group 2 Major Requirements		34	
Group 1 Core Requirements		37	Group 1 Core Requirements		27	
Total Hours		72			Total Hours*	61
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Mining Engineering degree.</small>						

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

Nuclear Engineering Group 2 Major Requirements

Principia College		Semester	Missouri S&T			
GEN 101 or WRIT 158 or MCOM 140	FYE: Integrated Learning or Reading and Writing Inquiry or Public Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3	
CHEM 131	Fundamentals of Chemistry I	4	CHEM 1310, 1319	General Chemistry I and Lab	5	
CSCI 171	Intro to Programming	3	COMP SCI 1971, 1981	Intro to Programming Method and Lab (C++)	3	
MATH 273 or MATH 360	Linear Algebra or Numerical Analysis	3	MATH 3108 or COMP SCI 3200	Linear Algebra or Intro to Numerical Methods	3	
ENGR 201	Engineering Mechanics: Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3	
ENGR 203	Mechanics of Materials	3	CIV ENG 2210	Mechanics of Materials	3	
MATH 364	Mathematical Statistics	3	STAT 3117	Intro to Probability and Statistics	3	
ENGR 206	Electrical Engineering Circuit Analysis	4	ELEC ENG 2800	Electrical Circuits	3	
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.						
ENGL 256 or MUS 100	U.S. Literature to 1860 or Intro to the Art of Music	6	ENGLISH 1221 or MUSIC 1150	American Literature: 1600 to 1865 or Music Understanding and Appreciation	6	
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.						
ECON 203 or ECON 204	Principles of Microeconomics or Principles of Macroeconomics	3	ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3	
PHIL 150 or PHIL 120 or POLS 120* or Foreign Language	Intro to Philosophy or Critical Thinking or American Government and Politics* or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or Foreign Language	Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	
Humanities, Arts, and Social Sciences Select 3 hours.						
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	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		41	Group 2 Major Requirements		41	
Group 1 Core Requirements		37	Group 1 Core Requirements		27	
Total Hours		78			Total Hours*	68
<small>*S&T advisor permission is required to transfer more than 69 credits toward the S&T Nuclear Engineering degree.</small>						

Petroleum Engineering Group 2 Major Requirements

Principia College		Semester	Missouri S&T		
GEN 101 or WRIT 158 or MCOM 140 CHEM 131	FYE: Integrated Learning or Reading and Writing Inquiry or Public Speaking Fundamentals of Chemistry I	3 4	ENGLISH 1160 or SPMS 1185 CHEM 1310, 1319 GEOLOGY 1110 (GEO ENG 1150)	Writing and Research or Principles of Speech <i>Applies to degree as Gen Ed Communication requirement.</i> General Chemistry I and Lab Physical and Environmental Geology	3 5 3
ERTH 111	Introductory Geology	4	CIV ENG 2200	Engineering Mechanics-Statics	3
ENGR 201	Engineering Mechanics: Statics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
ENGR 202	Engineering Mechanics: Dynamics	3	CIV ENG 2210	Mechanics of Materials	3
ENGR 203	Mechanics of Materials	3			
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 256 or MUS 100	U.S. Literature to 1860 or Intro to the Art of Music	6	ENGLISH 1221 or MUSIC 1150	American Literature: 1600 to 1865 or Music Understanding and Appreciation	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
PHIL 150 or PHIL 120 or POLS 120* or ECON 203 or ECON 204 or Foreign Language	Intro to Philosophy or Critical Thinking or American Government and Politics* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <i>*Satisfies the State of Missouri government requirement.</i>	6	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 <i>*Satisfies the State of Missouri government requirement.</i>	6
Humanities, Arts, and Social Sciences Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	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		35	Group 2 Major Requirements		34
Group 1 Core Requirements		37	Group 1 Core Requirements		27
Total Hours		72			Total Hours* 61
<i>*S&T advisor permission is required to transfer more than 69 credits toward the S&T Petroleum Engineering degree.</i>					