

Crowder College — Missouri S&T

General Engineering

Transfer Guide Effective as of Fall 2026

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.

Crowder College			Semester	Missouri S&T		
MATH 150, 160	Calculus I Part I and II	5		MATH 1214	Calculus I	4
MATH 201	Calculus II	5		MATH 1215	Calculus II	4
MATH 202	Calculus III	5		MATH 2222	Calculus III	4
MATH 210	Differential Equations	3		MATH 3304	Elementary Differential Equations	3
PHYS 190	General Physics I	5		PHYSICS 1135	Engineering Physics I	4
PHYS 210	General Physics II	5		PHYSICS 2135	Engineering Physics II	4
ENG 101	English Composition	3		ENGLISH 1120	Exposition and Argumentation	3
		Total Hours	31			Total Hours
						26

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

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

Aerospace Engineering
Architectural Engineering
Biomedical Engineering - Biomanufacturing
Biomedical Engineering - 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
Semiconductor 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 2026.
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

Crowder College		Semester	Missouri S&T		
ENGL 102 or ENGL 203 or COMM 104	Advanced English Composition or Technical Report Writing or Fundamentals of Speech	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 111	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
COMP 111	Intro to Computer Science	4	COMP SCI 1971, 1981	Intro to Programming Method and Lab (C++)	3
PHYS 250	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHIL 220	Ethics or other engineering, business, bio, social ethics approved by advisor	3	PHILOS 1130	How Should I Live? An Introduction to Ethics or other engineering, business, bio, social ethics approved by advisor	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 240 or ENGL 245 or ENGL 230 or ENGL 235 or ENGL 222 or HIST 106* or HIST 107* or ART 101 or MUSC 101 or TA 205 or Literature	British Literature I or British Literature II or Survey of American Literature I or Survey of American Literature II or World Literature I or U.S. History I* or U.S. History II* or Art Appreciation or Music Appreciation or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIST 101 or HIST 102* or GEOG 111 or PHIL 101 or PHIL 201 or PLSC 103* or PSYC 101 or ECON 202 or ECON 201 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Western Philosophy or Logic or National, State, Local 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	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
Humanities, Arts, and 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		33	Group 2 Major Requirements		32
Group 1 Core Requirements		31	Group 1 Core Requirements		26
Total Hours		64	Total Hours*		58
*S&T advisor permission is required to transfer more than 68 credits toward the S&T Aerospace Engineering degree.					

Architectural Engineering Group 2 Major Requirements

Crowder College		Semester	Missouri S&T			
ENGL 102 or ENGL 203 or COMM 104	Advanced English Composition or Technical Report Writing or Fundamentals of Speech	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3	
CHEM 111	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5	
PHYS 250	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3	
GEOL 115	Intro to Geology	3	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 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 to include ART 3203.						
ENGL 240 or ENGL 245 or ENGL 230 or ENGL 235 or ENGL 222 or HIST 106* or HIST 107* or MUSC 101 or TA 205 or Literature	British Literature I or British Literature II or Survey of American Literature I or Survey of American Literature II or World Literature I or U.S. History I* or U.S. History II* or Music Appreciation or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. *Satisfies the State of Missouri government requirement.	3	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. *Satisfies the State of Missouri government requirement.	3	
Behavioral and Social Sciences						
Select 6 hours from at least two specific disciplines, to include HISTORY 1200.						
HIST 102*	Western Civilization II* *Satisfies the State of Missouri Government requirement.	3	HISTORY 1200*	Modern Western Civilization* *Satisfies the State of Missouri Government requirement.	3	
PHL 101 or PHL 201 or PLSC 103* or PSYC 101 or ECON 202 or ECON 201 or Foreign Language	Intro to Western Philosophy or Logic or National, State, Local 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	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	
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		26	Group 2 Major Requirements		26	
Group 1 Core Requirements		31	Group 1 Core Requirements		26	
Total Hours		57			Total Hours*	52
*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

Crowder College		Semester	Missouri S&T		
COMM 104	Fundamentals of Speech	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 112	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis* (2) *CHEM 1510 is not a degree requirement, transfers as general elective credit.	3
BIOL 101	General Biology	4	BIO SCI 1113, 1219	General Biology and Lab Applies to degree as Track Elective.	4
BIOL 152	Human Anatomy and Physiology I	5	BIO SCI 3333	Anatomy and Physiology I	3
COMP 111	Intro to Computer Science	4	COMP SCI 1971,1981*	Intro to Programming Methodology and Lab* C++) *Will be substituted for COMP SCI 1500.	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 240 or ENGL 245 or ENGL 230 or ENGL 235 or ENGL 222 or HIST 106* or HIST 107* or ART 101 or MUSC 101 or TA 205 or Literature	British Literature I or British Literature II or Survey of American Literature I or Survey of American Literature II or World Literature I or U.S. History I* or U.S. History II* or Art Appreciation or Music Appreciation or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences Select 3 hours.					
HIST 101 or HIST 102* or GEOG 111 or PLSC 103* or PSYC 101 or ECON 202 or ECON 201 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or National, State, Local 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	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or POL SCI 1200* or PSYC 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3
Humanities, Arts, and Social Sciences ENGLISH 3560 required.					
ENGL 203	Technical Report Writing	3	ENGLISH 3560	Technical Writing	3
No free electives applied to the degree.		0	Maximum Free Electives		0
Group 2 Major Requirements		38	Group 2 Major Requirements		33
Group 1 Core Requirements		31	Group 1 Core Requirements		26
Total Hours		69			Total Hours* 59
*S&T advisor permission is required to transfer more than 69 credit hours toward the degree.					

Biomedical Engineering-Biomaterials Group 2 Major Requirements

<u>Crowder College</u>		<u>Semester</u>	<u>Missouri S&T</u>
COMM 104	Fundamentals of Speech	3	SP&MS 1185
CHEM 111	General Chemistry I	5	CHEM 1310, 1319
CHEM 112	General Chemistry II	5	CHEM 1320, 1510*
BIOL 101	General Biology	4	BIO SCI 1113*, 1219*
BIOL 152	Human Anatomy and Physiology I	5	BIO SCI 3333
COMP 111	Intro to Computer Science	4	COMP SCI 1971,1981*
PHYS 250	Statics	3	CIV ENG 2200
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 240 or ENGL 245 or ENGL 230 or ENGL 235 or ENGL 222 or HIST 106* or HIST 107* or ART 101 or MUSC 101 or TA 205 or Literature	British Literature I or British Literature II or Survey of American Literature I or Survey of American Literature II or World Literature I or U.S. History I* or U.S. History II* or Art Appreciation or Music Appreciation or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. <i>*Satisfies the State of Missouri government requirement.</i>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature
Behavioral and Social Sciences Select 3 hours.			
HIST 101 or HIST 102* or GEOG 111 or PLSC 103* or PSYC 101 or ECON 202 or ECON 201 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or National, State, Local Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <i>*Satisfies the State of Missouri government requirement.</i>	3	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language
Humanities, Arts, and Social Sciences ENGLISH 3560 required.			
ENGL 203	Technical Report Writing	3	ENGLISH 3560
<i>No free electives applied to the degree.</i>		0	Maximum Free Electives
Group 2 Major Requirements		41	Group 2 Major Requirements
Group 1 Core Requirements		31	Group 1 Core Requirements
Total Hours		72	Total Hours*
*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

<u>Crowder College</u>		<u>Semester</u>	<u>Missouri S&T</u>
ENGL 102 or ENGL 203 or COMM 104	Advanced English Composition or Technical Report Writing or Fundamentals of Speech	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185 Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.
PHYS 250	Statics	3	CIV ENG 2200 Engineering Mechanics-Statics
CHEM 111	General Chemistry I	5	CHEM 1310, 1319 General Chemistry I and Lab
CHEM 112	General Chemistry II	5	CHEM 1320, 1510* General Chemistry II (3) and Qualitative Analysis (2) *CHEM 1510 is not a degree requirement, transfers as general elective credit.
COMP 111	Intro to Computer Science	4	COMP SCI 1971,1981* Intro to Programming Methodology and Lab* C++ *Will be substituted for COMP SCI 1500.
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 240 or ENGL 245 or ENGL 230 or ENGL 235 or ENGL 222 or HIST 106* or HIST 107* or ART 101 or MUSC 101 or TA 205 or Literature	British Literature I or British Literature II or Survey of American Literature I or Survey of American Literature II or World Literature I or U.S. History I* or U.S. History II* or Art Appreciation or Music Appreciation or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. *Satisfies the State of Missouri government requirement.
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.			
HIST 101 or HIST 102* or GEOG 111 or PHIL 101 or PHIL 201 or PLSC 103* or PSYC 101 or ECON 202 or ECON 201 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Western Philosophy or Logic or National, State, Local 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	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.
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.
<i>No free electives applied to the degree.</i>		0	Maximum Free Electives
Group 2 Major Requirements		35	Group 2 Major Requirements
Group 1 Core Requirements		31	Group 1 Core Requirements
Total Hours		66	Total Hours*
			58

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

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

Crowder College			Semester	Missouri S&T	
COMM 104	Fundamentals of Speech	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 112	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis* (2) *CHEM 1510 is not a degree requirement, transfers as general elective credit.	3
COMP 111	Intro to Computer Science	4	COMP SCI 1971,1981*	Intro to Programming Methodology and Lab* C++ *Will be substituted for COMP SCI 1500.	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 240 or ENGL 245 or ENGL 230 or ENGL 235 or ENGL 222 or HIST 106* or HIST 107* or ART 101 or MUSC 101 or TA 205 or Literature	British Literature I or British Literature II or Survey of American Literature I or Survey of American Literature II or World Literature I or U.S. History I* or U.S. History II* or Art Appreciation or Music Appreciation or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIST 101 or HIST 102* or GEOG 111 or PHIL 101 or PHIL 201 or PLSC 103* or PSYC 101 or ECON 202 or ECON 201or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Western Philosophy or Logic or National, State, Local 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	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government*or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
Humanities, Arts, and Social Sciences ENGLISH 3560 required.					
ENGL 203	Technical Report Writing	3	ENGLISH 3560	Technical Writing	3
No free electives applied to the degree.		0	Maximum Free Electives		0
Group 2 Major Requirements		32	Group 2 Major Requirements		29
Group 1 Core Requirements		31	Group 1 Core Requirements		26
Total Hours		63	Total Hours*		55
*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

Crowder College		Semester	Missouri S&T			
ENGL 102 or ENGL 203 or COMM 104	Advanced English Composition or Technical Report Writing or Fundamentals of Speech	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <i>Applies to degree as Gen Ed Communication requirement.</i>	3	
CHEM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5	
GEOL 115	Intro to Geology	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3	
PHYS 250	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	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 240 or ENGL 245 or ENGL 230 or ENGL 235 or ENGL 222 or HIST 106* or HIST 107* or ART 101 or MUSC 101 or TA 205 or Literature	British Literature I or British Literature II or Survey of American Literature I or Survey of American Literature II or World Literature I or U.S. History I* or U.S. History II* or Art Appreciation or Music Appreciation or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. <i>*Satisfies the State of Missouri government requirement.</i>	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. <i>*Satisfies the State of Missouri government requirement.</i>	6	
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.						
HIST 101 or HIST 102* or GEOG 111 or PHL 101 or PHL 201 or PLSC 103* or PSYC 101 or ECON 202 or ECON 201 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Western Philosophy or Logic or National, State, Local Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <i>*Satisfies the State of Missouri government requirement.</i>	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <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		29	Group 2 Major Requirements		29	
Group 1 Core Requirements		31	Group 1 Core Requirements		26	
Total Hours		60			Total Hours*	70
*S&T advisor permission is required to transfer more than 69 credits toward the S&T Civil Engineering degree.						

Computer Engineering Group 2 Major Requirements

Crowder College			Semester	Missouri S&T	
COMM 104	Fundamentals of Speech	3	SPMS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 111	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
COMP 111	Intro to Computer Science	4	COMP SCI 1500	Computational Problem Solving	3
PHYS 250	Statics PHYS 250 combined with S&T MECH ENG 2350 will satisfy an Engineering Science Elective requirement. BOTH courses are required to satisfy this requirement.	3	CIV ENG 2200	Engineering Mechanics-Statics PHYS 250 combined with S&T MECH ENG 2350 will satisfy an Engineering Science Elective requirement. BOTH courses are required to satisfy this requirement.	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 240 or ENGL 245 or ENGL 230 or ENGL 235 or ENGL 222 or HIST 106* or HIST 107* or ART 101 or MUSC 101 or TA 205 or Literature	British Literature I or British Literature II or Survey of American Literature I or Survey of American Literature II or World Literature I or U.S. History I* or U.S. History II* or Art Appreciation or Music Appreciation or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences					
Select 6 hours from at least two specific disciplines.					
HIST 101 or HIST 102* or GEOG 111 or PHIL 101 or PHIL 201 or PLSC 103* or PSYC 101 or ECON 202 or ECON 201 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Western Philosophy or Logic or National, State, Local 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	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
Humanities, Arts, and Social Sciences					
Select 3 hours.					
ENGL 102 or ENGL 203	Advanced English Composition or Technical Report Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
Electives	Maximum Free Electives	3	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	33		Group 2 Major Requirements	32
	Group 1 Core Requirements	31		Group 1 Core Requirements	26
	Total Hours	64		Total Hours*	58
*S&T advisor permission is required to transfer more than 68 credits toward the S&T Computer Engineering degree.					

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

Electrical Engineering Group 2 Major Requirements

Crowder College		Semester	Missouri S&T		
COMM 104	Fundamentals of Speech	3	SPMS 1185	Principles of Speech Applies to degree as Gen.Ed Communication requirement.	3
CHEM 111	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
COMP 111	Intro to Computer Science	4	COMP SCI 1500	Computational Problem Solving	3
PHYS 250	Statics PHYS 250 combined with S&T MECH ENG 2350 will satisfy an Engineering Science Elective requirement. BOTH courses are required to satisfy this requirement.	3	CIV ENG 2200	Engineering Mechanics-Statics PHYS 250 combined with S&T MECH ENG 2350 will satisfy an Engineering Science Elective requirement. BOTH courses are required to satisfy this requirement.	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 240 or ENGL 245 or ENGL 230 or ENGL 235 or ENGL 222 or HIST 106* or HIST 107* or ART 101 or MUSC 101 or TA 205 or Literature	British Literature I or British Literature II or Survey of American Literature I or Survey of American Literature II or World Literature I or U.S. History I* or U.S. History II* or Art Appreciation or Music Appreciation or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIST 101 or HIST 102* or GEOG 111 or PHL 101 or PHL 201 or PLSC 103* or PSYC 101 or ECON 202 or ECON 201or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Western Philosophy or Logic or National, State, Local 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	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government*or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
Humanities, Arts, and Social Sciences Select 3 hours.					
ENGL 102 or ENGL 203	Advanced English Composition or Technical Report Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
Electives	Maximum Free Electives	6	Electives	Maximum Free Electives	6
	Group 2 Major Requirements	36		Group 2 Major Requirements	35
	Group 1 Core Requirements	31		Group 1 Core Requirements	26
	Total Hours	67		Total Hours*	61
*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

Crowder College			Semester	Missouri S&T		
COMM 104	Fundamentals of Speech	3	SPMS 1185	Principles of Speech	3	
CHEM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5	
COMP 111	Intro to Computer Science	3	COMP SCI 1971,1981	Intro to Programming Methodology and Lab C++	3	
PHYS 250	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	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 240 or ENGL 245 or ENGL 230 or ENGL 235 or ENGL 222 or HIST 106* or HIST 107* or ART 101 or MUSC 101 or TA 205 or Literature	British Literature I or British Literature II or Survey of American Literature I or Survey of American Literature II or World Literature I or U.S. History I* or U.S. History II* or Art Appreciation or Music Appreciation or Intro to Theatre or Any literature with prerequisite of no more than English Composition I.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120.	6	
*Satisfies the State of Missouri government requirement.						
Behavioral and Social Sciences						
Select 6 hours from at least two specific disciplines to include PSYCH 1101.						
PSYC 101	General Psychology	3	PSYCH 1101	General Psychology Required	3	
HIST 101 or HIST 102* or GEOG 111 or PHL 101 or PHL 201 or PLSC 103* or ECON 202 or ECON 201or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Western Philosophy or Logic or National, State, Local Government* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language	3	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government*or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language	3	
*Satisfies the State of Missouri government requirement.						
Humanities, Arts, and Social Sciences						
Select 3 hours.						
ENGL 102 or ENGL 203	Advanced English Composition or Technical Report Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3	
No free electives applied to the degree.		0	Electives	Maximum Free Electives	0	
Group 2 Major Requirements		29	Group 2 Major Requirements		29	
Group 1 Core Requirements		31	Group 1 Core Requirements		26	
Total Hours		60	Total Hours*		61	
*S&T advisor permission is required to transfer more than 61 credits toward the S&T Engineering Management degree.						

Environmental Engineering Group 2 Major Requirements

Crowder College		Semester	Missouri S&T		
ENGL 102 or ENGL 203 or COMM 104	Advanced English Composition or Technical Report Writing or Fundamentals of Speech	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
GEOL 115	Intro to Geology	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
CHEM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 112	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) *CHEM 1510 is not a degree requirement, transfers as general elective credit.	3
BIOL 101 or BIOL 102	General Biology (4) or Biological Concepts (3)	3	BIO SCI 1113, 1219* or BIO SCI 1113	General Biology (3) and Lab* (1) or General Biology (3) (no lab) *The lab is not a degree requirement, transfers as general elective credit.	3
PHYS 250	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	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, or 1310 to satisfy the State of Missouri government requirement and a degree-specific gen ed requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines. At least one course in either the HFA or the BSS (below) section must be selected from HISTORY 1200, 1300, or 1310.					
ENGL 240 or ENGL 245 or ENGL 230 or ENGL 235 or ENGL 222 or HIST 106* or HIST 107* or ART 101 or MUSC 101 or TA 205 or Literature	British Literature I or British Literature II or Survey of American Literature I or Survey of American Literature II or World Literature I or U.S. History I* or U.S. History II* or Art Appreciation or Music Appreciation or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.. At least one course in either the HFA (above) or the BSS section must be selected from HISTORY 1200, 1300, or 1310.					
HIST 102* or PHL 101 or PHL 201 or PSYC 101 or ECON 202 or ECON 201 or Foreign Language	Western Civilization II* or Intro to Western Philosophy or Logic 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	HISTORY 1200* or PHILOS 1105 or PHILOS 1115 or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Modern Western Civilization* or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement and a degree-specific gen ed requirement.	6
<i>No free electives applied to the degree.</i>		0	Maximum Free Electives		0
Group 2 Major Requirements		34	Group 2 Major Requirements		32
Group 1 Core Requirements		31	Group 1 Core Requirements		26
Total Hours		65	Total Hours*		58
*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

Crowder College			Semester	Missouri S&T		
ENGL 203	Technical Report Writing	3	ENGLISH 3560	Technical Writing Applies to degree as Gen Ed Communication requirement.	3	
CHEM 111	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5	
GEOL 115	Intro to Geology	3	GEO ENG 1150 (GEOLOGY 1110)	Physical and Environmental Geology	3	
PHYS 250	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	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 240 or ENGL 245 or ENGL 230 or ENGL 235 or ENGL 222 or HIST 106* or HIST 107* or ART 101 or MUSC 101 or TA 205 or Literature	British Literature I or British Literature II or Survey of American Literature I or Survey of American Literature II or World Literature I or U.S. History I* or U.S. History II* or Art Appreciation or Music Appreciation or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. *Satisfies the State of Missouri government requirement.	6	
Behavioral and Social Sciences						
Select 6 hours from at least two specific disciplines.						
HIST 101 or HIST 102* or GEOG 111 or PHL 101 or PHL 201 or PLSC 103* or PSYC 101 or ECON 202 or ECON 201or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Western Philosophy or Logic or National, State, Local 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	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government*or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	
Humanities, Arts, and 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		29	Group 2 Major Requirements		29	
Group 1 Core Requirements		31	Group 1 Core Requirements		26	
Total Hours		60	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

Crowder College		Semester	Missouri S&T			
ENGT 110	Engineering Graphics	3	MECH ENG 1761	Intro to Computer Aided Design	1	
ENGL 102 or ENGL 203 or COMM 104	Advanced English Composition or Technical Report Writing or Fundamentals of Speech	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3	
CHEM 111	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5	
COMP 111	Intro to Computer Science	3	COMP SCI 1971,1981	Intro to Programming Methodology and Lab C++	3	
PHYS 250	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	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 240 or ENGL 245 or ENGL 230 or ENGL 235 or ENGL 222 or HIST 106* or HIST 107* or ART 101 or MUSC 101 or TA 205 or Literature	British Literature I or British Literature II or Survey of American Literature I or Survey of American Literature II or World Literature I or U.S. History I* or U.S. History II* or Art Appreciation or Music Appreciation or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. *Satisfies the State of Missouri government requirement.	6	
Behavioral and Social Sciences						
Select 6 hours from at least two specific disciplines.						
HIST 101 or HIST 102* or GEOG 111 or PHIL 101 or PHIL 201 or PLSC 103* or PSYC 101 or ECON 202 or ECON 201 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Western Philosophy or Logic or National, State, Local 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	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	
Humanities, Arts, and 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		32	Group 2 Major Requirements		30	
Group 1 Core Requirements		31	Group 1 Core Requirements		26	
Total Hours		63			Total Hours*	56
*S&T advisor permission is required to transfer more than 68 credits toward the S&T Mechanical Engineering degree.						

Metallurgical Engineering Group 2 Major Requirements

Crowder College			Semester	Missouri S&T	
ENGL 102 or ENGL 203 or COMM 104	Advanced English Composition or Technical Report Writing or Fundamentals of Speech	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
COMP 111	Intro to Computer Science	4	COMP SCI 1971,1981*	Intro to Programming Methodology and Lab* C++) *Will be substituted for COMP SCI 1500.	3
PHYS 250	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CHEM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
CHEM 112	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) *CHEM 1510 is not a degree requirement, transfers as general elective credit.	3
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 240 or ENGL 245 or ENGL 230 or ENGL 235 or ENGL 222 or HIST 106* or HIST 107* or ART 101 or MUSC 101 or TA 205 or Literature	British Literature I or British Literature II or Survey of American Literature I or Survey of American Literature II or World Literature I or U.S. History I* or U.S. History II* or Art Appreciation or Music Appreciation or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIST 101 or HIST 102* or GEOG 111 or PHL 101 or PHL 201 or PLSC 103* or PSYC 101 or ECON 202 or ECON 201or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Western Philosophy or Logic or National, State, Local 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	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYC 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government*or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
Humanities, Arts, and Social Sciences Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any 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.		3	Maximum Free Electives		0
Group 2 Major Requirements		38	Group 2 Major Requirements		32
Group 1 Core Requirements		31	Group 1 Core Requirements		26
Total Hours		69	Total Hours*		68
*S&T advisor permission is required to transfer more than 68 credits toward the S&T Metallurgical Engineering degree.					

Mining Engineering Group 2 Major Requirements

Crowder College			Semester	Missouri S&T	
ENGL 102 or ENGL 203 or COMM 104	Advanced English Composition or Technical Report Writing or Fundamentals of Speech	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
PHYS 250	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
GEOL 115	Intro to Geology	3	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 240 or ENGL 245 or ENGL 230 or ENGL 235 or ENGL 222 or HIST 106* or HIST 107* or ART 101 or MUSC 101 or TA 205 or Literature	British Literature I or British Literature II or Survey of American Literature I or Survey of American Literature II or World Literature I or U.S. History I* or U.S. History II* or Art Appreciation or Music Appreciation or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
HIST 101 or HIST 102* or GEOG 111 or PHIL 101 or PHIL 201 or PLSC 103* or PSYC 101 or ECON 202 or ECON 201 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Western Philosophy or Logic or National, State, Local 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	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
No free electives applied to the degree.		0	Maximum Free Electives		0
Group 2 Major Requirements		26	Group 2 Major Requirements		26
Group 1 Core Requirements		31	Group 1 Core Requirements		26
Total Hours		57			Total Hours* 52
*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

Crowder College		Semester	Missouri S&T		
ENGL 102 or ENGL 203 or COMM 104	Advanced English Composition or Technical Report Writing or Fundamentals of Speech	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHEM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
COMP 111	Intro to Computer Science	3	COMP SCI 1971, 1981	Intro to Programming Method and Lab (C++)	3
PHYS 250	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	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 240 or ENGL 245 or ENGL 230 or ENGL 235 or ENGL 222 or HIST 106* or HIST 107* or ART 101 or MUSC 101 or TA 205 or Literature	British Literature I or British Literature II or Survey of American Literature I or Survey of American Literature II or World Literature I or U.S. History I* or U.S. History II* or Art Appreciation or Music Appreciation or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences					
Select 6 hours from at least two specific disciplines to include either ECON 1100 or 1200.					
ECON 202 or ECON 201	Principles of Microeconomics or Principles of Macroeconomics	3	ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3
HIST 101 or HIST 102* or GEOG 111 or PHL 101 or PHL 201 or PLSC 103* or PSYC 101 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Western Philosophy or Logic or National, State, Local Government* or General Psychology or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3
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		29	Group 2 Major Requirements		29
Group 1 Core Requirements		31	Group 1 Core Requirements		26
Total Hours		60			Total Hours*
					55

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

Petroleum Engineering Group 2 Major Requirements

Crowder College		Semester	Missouri S&T		
ENGL 102 or ENGL 203	Advanced English Composition or Technical Report Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing Applies to degree as Gen Ed Communication requirement.	3
CHEM 111	General Chemistry I	5	CHEM 1310*, 1319	General Chemistry I and Lab *CHEM 1310 will be substituted for CHEM 1305.	5
GEOL 115	Intro to Geology	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
PHYS 250	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	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 240 or ENGL 245 or ENGL 230 or ENGL 235 or ENGL 222 or HIST 106* or HIST 107* or ART 101 or MUSC 101 or TA 205 or Literature	British Literature I or British Literature II or Survey of American Literature I or Survey of American Literature II or World Literature I or U.S. History I* or U.S. History II* or Art Appreciation or Music Appreciation or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences					
Select 6 hours from at least two specific disciplines.					
HIST 101 or HIST 102* or GEOG 111 or PHL 101 or PHL 201 or PLSC 103* or PSYC 101 or ECON 202 or ECON 201or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Western Philosophy or Logic or National, State, Local 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	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
Humanities, Arts, and 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		29	Group 2 Major Requirements		29
Group 1 Core Requirements		31	Group 1 Core Requirements		26
Total Hours		60	Total Hours*		55
*S&T advisor permission is required to transfer more than 69 credits toward the S&T Petroleum Engineering degree.					

Semiconductor Engineering-Device Engineering Emphasis Group 2 Major Requirements

Crowder College		Semester	Missouri S&T			
ENGL 102 or ENGL 203 or COMM 104	Advanced English Composition or Technical Report Writing or Fundamentals of Speech	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3	
CHEM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5	
CHEM 112	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) *CHEM 1510 is not a degree requirement, transfers as general elective credit.	3	
COMP 111	Intro to Computer Science	4	COMP SCI 1971,1981*	Intro to Programming Methodology and Lab* C++) *Will be substituted for COMP SCI 1500.	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 240 or ENGL 245 or ENGL 230 or ENGL 235 or ENGL 222 or HIST 106* or HIST 107* or ART 101 or MUSC 101 or TA 205 or Literature	British Literature I or British Literature II or Survey of American Literature I or Survey of American Literature II or World Literature I or U.S. History I* or U.S. History II* or Art Appreciation or Music Appreciation or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. *Satisfies the State of Missouri government requirement.	6	
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.						
HIST 101 or HIST 102* or GEOG 111 or PHIL 101 or PHIL 201 or PLSC 103* or PSYC 101 or ECON 202 or ECON 201 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Western Philosophy or Logic or National, State, Local 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	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	
Humanities, Arts, and 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		35	Group 2 Major Requirements		32	
Group 1 Core Requirements		31	Group 1 Core Requirements		26	
Total Hours		66			Total Hours*	58
*S&T advisor permission is required to transfer more than 68 credits toward the S&T Ceramic Engineering degree.						

Semiconductor Engineering-Process Engineering Emphasis Group 2 Major Requirements

Crowder College		Semester	Missouri S&T			
ENGL 102 or ENGL 203 or COMM 104	Advanced English Composition or Technical Report Writing or Fundamentals of Speech	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech Applies to degree as Gen Ed Communication requirement.	3	
CHEM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5	
CHEM 112	General Chemistry II	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) *CHEM 1510 is not a degree requirement, transfers as general elective credit.	3	
COMP 111	Intro to Computer Science	4	COMP SCI 1971,1981*	Intro to Programming Methodology and Lab* C++) *Will be substituted for COMP SCI 1500.	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 240 or ENGL 245 or ENGL 230 or ENGL 235 or ENGL 222 or HIST 106* or HIST 107* or ART 101 or MUSC 101 or TA 205 or Literature	British Literature I or British Literature II or Survey of American Literature I or Survey of American Literature II or World Literature I or U.S. History I* or U.S. History II* or Art Appreciation or Music Appreciation or Intro to Theatre or Any literature with prerequisite of no more than English Composition I. *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1190 or Literature	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Appreciation or Theatre via Video or Any literature with prerequisite of no more than ENGLISH 1120. *Satisfies the State of Missouri government requirement.	6	
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.						
HIST 101 or HIST 102* or GEOG 111 or PHIL 101 or PHIL 201 or PLSC 103* or PSYC 101 or ECON 202 or ECON 201 or Foreign Language	Western Civilization I or Western Civilization II* or World Regional Geography or Intro to Western Philosophy or Logic or National, State, Local 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	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHILOS 1105 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	
Humanities, Arts, and 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		35	Group 2 Major Requirements		32	
Group 1 Core Requirements		31	Group 1 Core Requirements		26	
Total Hours		66			Total Hours*	58
*S&T advisor permission is required to transfer more than 68 credits toward the S&T Ceramic Engineering degree.						