## Crowder 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.

	Crowder College		Semester		Missouri S&T		
MATH 150, 160	Calculus I Part I and II	5		MATH 1214	Calculus I Grade of C or better is required.		4
MATH 201	Calculus II	5		MATH 1215	Calculus II Grade of C or better is required.		4
MATH 202	Calculus III	5		MATH 2222	Calculus III Grade of C or better is required.		4
MATH 210	Differential Equations	3		MATH 3304	Elementary Differential Equations		3
PHYS 190	General Physics I	5		PHYSICS 1135	Engineering Physics I Grade of C or better is required.		4
PHYS 210	General Physics II	5		PHYSICS 2135	Engineering Physics II Grade of C or better is required.		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 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** 

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 Er	igineeri	ing Groι	ıp 2 Major R	Requirements	
	Crowder College		Semeste	<u>r</u>	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 PHYS 250	Intro to Computer Science Statics Ethics		4 3	CS 1971, 1981 CIV ENG 2200	Intro to Programming Method and Lab (C++) Engineering Mechanics-Statics How Should I Live? An Introduction to Ethics	3
PHIL 220	or other engineering, business, bio, social ethics approved by advisor		3	PHILOS 1130	or other engineering, business, bio, social ethics approved by advisor	3
	From t 6 hours	the options listed Humanities and Behavioral and S HISTORY 1200, 1	d in each group b Fine Arts from at Social Sciences from 1300, 1310, or PO	•	iclude es and iplines.	
			lumanities and I	ine Arts o 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	British Literature I or British Literature II or Survey of American Literature II 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 "Satisfies the State of Missouri government requirement.		6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1800 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre for Social Change *Satisfies the State of Missouri government requirement.	6
			avioral and Soci	al Sciences o 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.	Select o Hour	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or PHIL 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or  Modern Western Civilization* or  World Regional Geography or  Self and World: Intro to Philosophy or  Logic and Reasoning: An Introduction or  American Government*or  General Psychology or  Principles of Microeconomics or  Principles of Macroeconomics or  Elementary or Intermediate Foreign Language  *Satisfies the State of Missouri government requirement.	6
		Humani	ities, Arts, and S Select 3 hou			
HASS Elective	Humanities, Arts, Social Sciences Elective: Any music, theater, English and technical communica philosophy, political science, psychology, econom etymology, or foreign language.	tion,	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
	No free electives applied to the degree. Group 2 Major Requirements Group 1 Core Requirements	Total Hours	0 33 31 64		Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements  Total Hours*  *S&T advisor permission is required to transfer more than 68 credits toward the S&T Aerospace Engineering degree.	0 32 26 58

	Architectural Er	ngineering G	Group 2 Major	Requirements	
	Crowder College	Sem	<u>ester</u>	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.	
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
	6 hours H	lumanities and Fine Arts fro havioral and Social Science TORY 1200, 1300, 1310, c	oup below, Select 12 hours to inc m at least two specific disciplines es from at least two specific disci- or POL SCI 1200 to satisfy the sand Fine Arts	s and plines.	
			ast 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	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 *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1221 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre for Social Change *Satisfies the State of Missour government requirement.	6
	Soloat 6 hour		Social Sciences c disciplines to include HISTO	DV 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 201or 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	PHIL 1105 or PHIL 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3
	No free electives applied to the degree. Group 2 Major Requirements Group 1 Core Requirements	0 26 31 Total Hours 57		Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements  Total Hou  *S&T advisor permission is required to transfer more than 69 credits toward the S&T Architectural Engineering degree.	0 21 26 rs* 47

			ering-Biomanufa or Requirements		
	Crowder College	S	emester_	Missouri S&T	
COMM 104	Fundamentals of Speech	3	SP&MS 1185	Principles of Speech	3
CHEM 111	General Chemistry I	5	CHEM 1310, 1319	Applies to degree as Gen Ed Communication requirement.  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, 3359	Anatomy and Physiology I and Lab	4
COMP 111	Intro to Computer Science	4	CS 1971,1981*	Intro to Programming Methodology and Lab* C++) *Will be substituted for CS 1500.	3
	6 hours Hu	imanities and Fine Art lavioral and Social Sci FORY 1200, 1300, 13	•	s and plines.	
	ç		ies and Fine Arts t 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	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 Intro to Theatre  Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1800 to 1865 or American Literature: 1805 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre for Social Change  *Satisfies the State of Missouri government requirement.	6
			and Social Sciences ect 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 PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or  Modern Western Civilization* or World Regional Geography or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3
			ts, and Social Sciences H 3560 required.		
ENGL 203	Technical Report Writing	3	ENGLISH 3560	Technical Writing	3
	No free electives applied to the degree. Group 2 Major Requirements Group 1 Core Requirements	0 38 31 Total Hours 69		Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements  Total Hours'  *S&T advisor permission is required to transfer more than 69 credit hours toward the degree.	0 34 26 * 60

		nedical Engine Group 2 Major			
	Crowder College	<u>Seme</u>	<u>ster</u>	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 (Non-engineering).	4
BIOL 152	Human Anatomy and Physiology I	5	BIO SCI 3333, 3359	Human Anatomy and Physiology I and Lab	4
COMP 111	Intro to Computer Science	4	CS 1971,1981*	Intro to Programming Methodology and Lab* C++) *Will be substituted for CS 1500.	3
PHYS 250	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
	6 ho		nat least two specific disciplines from at least two specific discip POL SCI 1200 to satisfy the S	and blines.	
		Humanities ar Select 6 hours from at leas			
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	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 I* or Art Appreciation or Music Appreciation or Intro to Theatre *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 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre for Social Change  *Satisfies the State of Missouri government requirement.	6
		Behavioral and S			
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.	Select 3	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or  Modern Western Civilization* or World Regional Geography or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3
		Humanities, Arts, an ENGLISH 356			
ENGL 203	Technical Report Writing	3	ENGLISH 3560	Technical Writing	3
	No free electives applied to the degree. Group 2 Major Requirements Group 1 Core Requirements	0 41 31 Total Hours 72		Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements  Total Hours  "S&T advisor permission is required to transfer more than 69 credits toward the S&T Biomedical Engineering degree.	0 37 26 s* 63

	Ceramic En	gineering Gr	oup 2 Major Re	quirements	
	Crowder College	<u>Sen</u>	nester	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
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 General Chemistry II (3) and Qualitative Analysis (2)	5
CHEM 112	General Chemistry II	5	CHEM 1320, 1510*	"CHEM 1510 is not a degree requirement, transfers as general elective credit.	3
	From 6 hou	n the options listed in each g les Humanities and Fine Arts fi s Behavioral and Social Scient LHISTORY 1200, 1300, 1310,		clude s and plines.	
			and Fine Arts east two specific disciplines.		
ENGL 240 or ENGL 245 or ENGL 230 or ENGL 235 or ENGL 222 or HIST 107* or ART 101 or MUSC 101 or TA 205  HIST 102* or GEOG 111 or PHL 101 or	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 Intro to Theatre *Satisfies the State of Missouri government requirement.  Western Civilization II* or World Regional Geography or Intro to Western Philosophy or	6 Behavioral an	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1212 or ENGLISH 1222 or ENGLISH 1223 or ENGLISH 1223 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1150  d Social Sciences east two specific disciplines. HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1865 to Present or American Literature: 1865 to Present or World Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre for Social Change *Satisfies the State of Missouri government requirement.  Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or	6
PHL 201 or PLSC 103* or PSYC 101 or ECON 202 or ECON 201or Foreign Language	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	PHIL 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Logic and Reasoning: An Introduction or  American Government*or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
			and Social Sciences t 3 hours.		
HASS Elective	Humanities, Arts, Social Sciences Elective: An music, theater, English and technical communic philosophy, political science, psychology, econology, or foreign language.	y history, art, cation,	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
	No free electives applied to the degree. Group 2 Major Requirements Group 1 Core Requirements	0 31 31 Total Hours 62		Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements  Total Hours'  *S&T advisor permission is required to transfer more than 68 credits toward the S&T Ceramic Engineering degree.	0 29 26 55

	Chemical Engine	ering - Bioch	ngineering or nemical Engine r Requirement	•	
	Crowder College		nester	Missouri S&T	
COMM 104		3	SP&MS 1185	Principles of Speech	3
	Fundamentals of Speech			Applies to degree as Gen Ed Communication requirement.	
CHEM 111	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab General Chemistry II (3) and Qualitative Analysis* (2)	5
CHEM 112	General Chemistry II		CHEM 1320, 1510*	*CHEM 1510 is not a degree requirement, transfers as general elective credit.	3
COMP 111	Intro to Computer Science	4	CS 1971,1981*	Intro to Programming Methodology and Lab* C++) *Will be substituted for CS 1500.	3
	From 6 hour	the options listed in each gr s Humanities and Fine Arts fro	ces General Education Requestion below, select 15 hours to inform at least two specific discipline tes from at least two specific discipline	iclude es and	
	*At least one course must be selected from	HISTORY 1200, 1300, 1310,	or POL SCI 1200 to satisfy the	State of Missouri government requirement.	
			and Fine Arts ast 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	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 Art Appreciation or Music Appreciation or Intro to Theatre *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 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre for Social Change *Satisfes the State of Missouri government requirement.	6
			l Social Sciences		
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 *Satisfies the State of Missouri government requirement.	6	ast two specific disciplines. HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or PHIL 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or  Modern Western Civilization* or  World Regional Geography or  Self and World: Intro to Philosophy or  Logic and Reasoning: An Introduction or  American Government*or  General Psychology or  Principles of Microeconomics or  Principles of Macroeconomics or  Elementary or Intermediate Foreign Language  *Satisfies the State of Missouri government requirement.	6
			and Social Sciences 3560 required.		
ENGL 203	Technical Report Writing	3	ENGLISH 3560	Technical Writing	3
	No free electives applied to the degree. Group 2 Major Requirements Group 1 Core Requirements	0 27 31 Total Hours 58		Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements  Total Hc  *S&T advisor permission is required to transfer more than 68 credits toward the S&T Chemical Engineering degree.	0 29 26 ours* 55

	Civil Engin	eering Gro	up 2 Major Requ	uirements	
	Crowder College	S	emester	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
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
	From the first term of the fir	ne options listed in each Humanities and Fine Art Behavioral and Social Sci IISTORY 1200, 1300, 13	•	clude s and plines.	
			ies and Fine Arts t least two specific disciplines.		
ENGL 240 or ENGL 245 or ENGL 230 or ENGL 235 or ENGL 232 or HIST 106* or HIST 107* or ART 101 or MUSC 101 or TA 205 HIST 102* or GEOG 111 or PHL 101 or	British Literature I or British Literature II or Survey of American Literature II or Survey of American Literature II or World Literature I or U.S. History I* or U.S. History I* or Art Appreciation or Music Appreciation or Intro to Theatre "Satisfies the State of Missouri government requirement.  Western Civilization I or World Regional Geography or Intro to Western Philosophy or	6 Behavioral a	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1150  and Social Sciences t least two specific disciplines. HISTORY 1200* or HISTORY 1210 or PHIL 1105 or	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1800 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre for Social Change *Satisfies the State of Missouri government requirement.  Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or	6
PHL 201 or PLSC 103* or PSYC 101 or ECON 202 or ECON 201or Foreign Language	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	PHIL 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	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
			ts, and Social Sciences ect 3 hours.		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any I music, theater, English and technical communical philosophy, political science, psychology, econom etymology, or foreign language.	nistory, art, ion,	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
	No free electives applied to the degree. Group 2 Major Requirements Group 1 Core Requirements	0 29 31 Total Hours 60		Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements  Total Hour  *S&T advisor permission is required to transfer more than 69 credits toward the S&T Cive Engineering degree.	

	Computer En	gineering Gr	oup 2 Major R	equirements	
	Crowder College	Semo	ester	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	5
COMP 111	Intro to Computer Science	4	CS 1500	Computational Problem Solving	3
PHYS 250	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics Satisfies an Engineering Science Elective requirement.	3
	From the first of	ne options listed in each gro Humanities and Fine Arts fro Behavioral and Social Science ISTORY 1200, 1300, 1310, o	es General Education Requipup below, select 15 hours to in mat least two specific disciplines from at least two specific discour POL SCI 1200 to satisfy the and Fine Arts	nclude es and ciplines.	
			st 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	British Literature I or British Literature II or Survey of American Literature II or Survey of American Literature II or World Literature I or U.S. History I* or U.S. History I* or Art Appreciation or Music Appreciation or Intro to Theatre *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1221 or ENGLISH 1231 or HISTORY 1300° or HISTORY 1310° or ART 1180 or MUSIC 1150 or THEATRE 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre for Social Change "Satisfies the State of Missouri government requirement.	6
			Social Sciences		
HIST 101 or HIST 102* or	Western Civilization I or  Western Civilization II* or	Select 6 hours from at lea	st two specific disciplines. HISTORY 1100 or HISTORY 1200* or	Early Western Civilization or  Modern Western Civilization* 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 Visited in the Vestern Philosophy 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 Miscouri government requirement.	6	HISTORY 2110 or PHIL 1105 or PHIL 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	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
			ind Social Sciences 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 Group 1 Core Requirements	33 31 Total Hours 64		Group 2 Major Requirements Group 1 Core Requirements  T  *S&T advisor permission is required to transfer more than 68 credits toward Computer Engineering degree.	32 26 otal Hours* 58 the S&T

	Electrical Enç	gineering	Group	2 Major R	equirements	
	Crowder College		<u>Semester</u>		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	5
COMP 111	Intro to Computer Science	4		CS 1500	Computational Problem Solving	3
PHYS 250	Statics PHYS 250 combined with S&T MECH ENG 2350 will satisfy an Engine Elective requirement. BOTH courses are required to satisfy this require			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
	From the 6 hours	ne options listed in ea Humanities and Fine A ehavioral and Social S	ach group belo Arts from at lea Sciences from	neral Education Requipments, select 15 hours to in ast two specific discipline at least two specific disconsisted two specific disconsisted the set of the second s	nclude es and ciplines.	
		Human	nities and Fir	ne Arts		
		Select 6 hours from				
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	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 I* or Art Appreciation or Music Appreciation or Intro to Theatre *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 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1800 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or Ant Appreciation or Music Understanding and Appreciation or Theatre for Social Change *Satisfies the State of Missouri government requirement.	6
		Behaviora	al and Social	Sciences		
		Select 6 hours from				
HIST 101 or HIST 102* or GEOG 111 or PHL 101 or PHL 201 or PSYC 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 PHIL 1105 or PPOL 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
		<b>Humanities</b> , A	Arts, and So 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 Group 1 Core Requirements	36 31 Total Hours 67			Group 2 Major Requirements Group 1 Core Requirements Total Hours  *S&T advisor permission is required to transfer more than 68 credits toward the S&T Electrical Engineering degree.	35 26 * 61

	Engineering Ma	nagement (	Group 2 Major	Requirements	
	Crowder College	Sen	nester	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	5
COMP 111	Intro to Computer Science	3	CS 1971,1981	Intro to Programming Methodology and Lab C++	3
PHYS 250	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
	From th	e options listed in each g Humanities and Fine Arts fr ehavioral and Social Science	nces General Education Requiroup below, select 15 hours to in or at least two specific discipline ces from at least two specific discipline or POL SCI 1200 to satisfy the	clude s and iplines.	
		Humanities	and Fine Arts		
		Select 6 hours from at le	east 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	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 I* or Art Appreciation or Music Appreciation or Intro to Theatre *Satisfies the State of Missouri government requirement.	6	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1223 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre for Social Change *Satisfies the State of Missouri government requirement.	6
		Behavioral and	d Social Sciences		
	Select 6 ho	urs from at least two spe	cific disciplines to include PSYC	CH 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 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 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 PHIL 1105 or PHIL 1115 or POL SCI 1200* or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or  Modern Western Civilization* or  World Regional Geography or  Self and World: Intro to Philosophy or  Logic and Reasoning: An Introduction or  American Government*or  Principles of Microeconomics or  Principles of Macroeconomics or  Elementary or Intermediate Foreign Language  *Satisfies the State of Missouri government requirement.	3
			and Social Sciences t 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. Group 2 Major Requirements Group 1 Core Requirements	0 29 31 Total Hours 60	Electives	Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements  Total H *S&T advisor permission is required to transfer more than 61 credits toward the S& Engineering Management degree.	

	Environmental E	ngineering	Group 2 Major	Requirements	
	Crowder College	Se	<u>mester</u>	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	General Biology	5	BIO SCI 1113, 1219*	General Biology (3) and Lab* (1)  *The lab is not a degree requirement, transfers as general elective credit.	3
PHYS 250	Statics	3	CIV ENG 2200 nces General Education Requirements	Engineering Mechanics-Statics	3
	6 hours Hu	manities and Fine Arts avioral and Social Scien FORY 1200, 1300, 1310	·	and blines.	
	ç		s and Fine Arts 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	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 I* or Art Appreciation or Music Appreciation or Intro to Theatre *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 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre for Social Change *Satisfies the State of Missouri government requirement.	6
	0-1-+Ch		nd Social Sciences	DV 4000	
HIST 102*	Western Civilization II*  *Satisfies the State of Missouri Government requirement.	irom at least two spe	cific disciplines to include HISTOI 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 201or 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	PHIL 1105 or PHIL 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3
	No free electives applied to the degree. Group 2 Major Requirements Group 1 Core Requirements	0 36 31 Total Hours 67		Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements  Total Hot  *S&T advisor permission is required to transfer more than 69 credits toward the S&T Environmental Engineering degree.	0 32 26 urs* 58

	Geological Eng	gineer	ing Gro	oup 2 Major R	equirements	
	Crowder College		Semes	ster	Missouri S&T	
ENGL 203	Technical Report Writing		3	ENGLISH 3560	Technical Writing	3
CHEM 111	General Chemistry I		5	CHEM 1310, 1319	Applies to degree as Gen Ed Communication requirement.  General Chemistry I and Lab	5
COMP 111	Intro to Computer Science		4	CS 1500	Computational Problem Solving	3
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
	From the 6 hours H	options liste lumanities and havioral and S TORY 1200,	d in each grou I Fine Arts from Social Sciences 1300, 1310, or		clude s and olines.	
			lumanities an	t two specific disciplines.		
ENGL 240 or ENGL 245 or ENGL 230 or ENGL 230 or ENGL 235 or ENGL 222 or HIST 107* or ART 101 or MUSC 101 or TA 205  HIST 102* or GEOG 111 or PHL 101 or PHL 201 or PSYC 103* or PSYC 101 or ECON 202 or ECON 201 or	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 Art Appreciation or Music Appreciation or Intro to Theatre "Satisfies the State of Missouri government requirement.	Beh	6 avioral and S	ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1231 or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150 or THEATRE 1150  ocial Sciences two specific disciplines. HISTORY 1100 or HISTORY 1100 or PHIL 1105 or PHIL 1105 or PHIL 1105 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1100 or	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1805 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre for Social Change *Satisfies the State of Missouri government requirement.  Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government*or General Psychology or Principles of Microeconomics or	6
Foreign Language	Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.			ECON 1200 or Foreign Language	Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	
		Human	ities, Arts, and Select 3 I	d Social Sciences		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any his music, theater, English and technical communicatio philosophy, political science, psychology, economic etymology, or foreign language.	n,	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
	No free electives applied to the degree.		0		Maximum Free Electives	0
	Group 2 Major Requirements Group 1 Core Requirements	Total Hours	33 31 64		Group 2 Major Requirements Group 1 Core Requirements Total Hours*  *S&T advisor permission is required to transfer more than 65 credits toward the S&T Geological Engineering degree.	32 26 58

	Mechanical Eng	gineerin	g Groı	ıp 2 Major F	Requirements	
ENGT 110	<u>Crowder College</u> Engineering Graphics	3	Semester	MECH ENG 1761	Missouri S&T 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	
COMP 111	Intro to Computer Science	3		CS 1971,1981	*CHEM 1310 will be substituted for CHEM 1305.  Intro to Programming Methodology and Lab C++	3
PHYS 250	Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
	From the 6 hours Hu	options listed in umanities and Fine navioral and Socia	each group be e Arts from at le l Sciences fron	eneral Education Requelow, select 15 hours to in east two specific discipline in at least two specific discipline a SCI 1200 to satisfy the	clude s and iplines.	
			anities and F	•		
	S	Select 6 hours fro	om 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	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 Art Appreciation or Music Appreciation or Intro to Theatre "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 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre for Social Change *Satisfies the State of Missouri government requirement.	6
			ral and Socia			
		Select 6 hours fro	om 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 *Satisfies the State of Missouri government requirement.	6		HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or PHIL 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		ocial Sciences		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any hist music, theater, English and technical communication philosophy, political science, psychology, economics etymology, or foreign language.	ı, <sub>3</sub>	Select 3 hour	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
	No free electives applied to the degree.	0			Maximum Free Electives	0
	Group 2 Major Requirements Group 1 Core Requirements	32 31 Total Hours 63			Group 2 Major Requirements Group 1 Core Requirements  Total Hours*  *S&T advisor permission is required to transfer more than 68 credits toward the S&T Mechanical Engineering degree.	25 26 51

	Metallurgical E	ngineer	ing G	roup 2 Major	Requirements	
	Crowder College		Semes	<u>ster</u>	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
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
	From 6 hour	the options listed rs Humanities and I Behavioral and So HISTORY 1200, 1	in each grou Fine Arts from ocial Sciences 300, 1310, or	•	elude and olines.	
			ımanities an			
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	British Literature I or British Literature II or Survey of American Literature II or Survey of American Literature II or World Literature I or U.S. History I* or U.S. History I* or Art Appreciation or Music Appreciation or Intro to Theatre "Satisfies the State of Missouri government requirement.		from at least	t two specific disciplines.  ENGLISH 1211 or  ENGLISH 1221 or  ENGLISH 1222 or  ENGLISH 1222 or  ENGLISH 1231 or  HISTORY 1300* or  HISTORY 1300 or  ART 1180 or  MUSIC 1150 or  THEATRE 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre for Social Change 'Satisfies the State of Missouri government requirement.	6
				ocial Sciences		
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	t two specific disciplines. HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or PHIL 1105 or PHIL 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
		Humanit		d Social Sciences		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any music, theater, English and technical communic: philosophy, political science, psychology, econor etymology, or foreign language.	ation,	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
	Maximum Free Electives		3		Maximum Free Electives	3
	Group 2 Major Requirements Group 1 Core Requirements		34 31 65		Group 2 Major Requirements Group 1 Core Requirements  Total Hours*  *S&T advisor permission is required to transfer more than 68 credits toward the S&T  Metallurgical Engineering degree.	32 26 58

	Mining Eng	ineering Gro	oup 2 Major Red	quirements	
	Crowder College	Ser	nester_	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
	From 6	he options listed in each g Humanities and Fine Arts f Behavioral and Social Scien	nces General Education Requiroup below, select 12 hours to in rom at least two specific discipline ces from at least two specific discipline or POL SCI 1200 to satisfy the	iclude es and iplines.	
			and Fine Arts		
		Select 6 hours from at le	east 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	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 Art Appreciation or Music Appreciation or Intro to Theatre  *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 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre for Social Change *Satisfies the State of Missourj government requirement.	6
		Behavioral an	d Social Sciences		
		Select 6 hours from at le	east 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 *Satisfies the State of Missouri government requirement.	6	HISTORY 1100 or HISTORY 1200* or HISTORY 2110 or PHIL 1105 or PHIL 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization or Modern Western Civilization* or World Regional Geography or Self and World: Intro to Philosophy or Logic and Reasoning: An Introduction or American Government*or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
	No free electives applied to the degree.	0		Maximum Free Electives	0
	Group 2 Major Requirements Group 1 Core Requirements	26 31 Total Hours 57		Group 2 Major Requirements Group 1 Core Requirements Tot:  *S&T advisor permission is required to transfer more than 68 credits toward th Mining Engineering degree.	26 26 al Hours* 52 e S&T

	Nuclear Engir	neering (	Group	2 Major Re	equirements	
	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 COMP 111	General Chemistry I Intro to Computer Science	5 3		CHEM 1310, 1319 CS 1971, 1981	General Chemistry I and Lab Intro to Programming Method and Lab (C++)	5 3
PHYS 250	Statics	3		CIV ENG 2200	Engineering Mechanics-Statics	3
	From the 6 hours Hu	options listed in eaumanities and Fine anavioral and Social S	ach group belo Arts from at lea Sciences from	neral Education Requipments of the second section of the section o	nclude es and ciplines.	
	At least one obtains must be delected from the		nities and Fir	•	Ctate of missouri government requirement.	
	S			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	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 *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 1150	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1600 to 1865 or American Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre for Social Change 'Satisfies the State of Missouri government requirement.	6
			al and Social			
		Select 6 hours from		specific disciplines.		
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 PHIL 1105 or PHIL 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
			Arts, and So	cial Sciences		
HASS Elective	Humanities, Arts, Social Sciences Elective: Any hist music, theater, English and technical communication philosophy, political science, psychology, economics etymology, or foreign language.	l, 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 Group 2 Major Requirements Group 1 Core Requirements	0 29 31 Total Hours 60			Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements  Total Hours*  *\$8T advisor permission is required to transfer more than 69 credits toward the \$8.T  Nuclear Engineering degree.	0 29 26 55

	Petroleum En	gineeri	ng Grou	ıp 2 Major R	equirements	
	Crowder College		Semeste	<u>r</u>	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	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
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
	From the 6 hours	ne options listed Humanities and Behavioral and S	d in each group b Fine Arts from at locial Sciences fro	deneral Education Requivelow, select 15 hours to in least two specific discipline m at least two specific discipline SCI 1200 to satisfy the	clude s and iplines.	
			lumanities and			
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	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 *Satisfies the State of Missouri government requirement.  Western Civilization I or	Beha	6 avioral and Soc	no specific disciplines. ENGLISH 1211 or ENGLISH 1212 or ENGLISH 1221 or ENGLISH 1222 or ENGLISH 1222 or ENGLISH 1223 or HISTORY 1300° or HISTORY 1310° or ART 1180 or MUSIC 1150 or THEATRE 1150  ial Sciences or specific disciplines. HISTORY 1100 or	British Literature I: The Beginnings to 1800 or British Literature II: 1800 to Present American Literature: 1805 to Present or World Literature: 1865 to Present or World Literature I: Beginnings to the Renaissance or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation or Theatre for Social Change *Satisfies the State of Missouri government requirement.  Early Western Civilization or	6
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 *Satisfies the State of Missouri government requirement.		6	HISTORY 1100 or HISTORY 2100 or PHIL 1105 or PHIL 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Early Western Civilization* or  Modern Western Civilization* or  World Regional Geography or  Self and World: Intro to Philosophy or  Logic and Reasoning: An Introduction or  American Government* or  General Psychology or  Principles of Microeconomics or  Principles of Macroeconomics or  Elementary or Intermediate Foreign Language  *Satisfies the State of Missouri government requirement.	6
		Humani	ties, Arts, and S			
HASS Elective	Humanities, Arts, Social Sciences Elective: Any h music, theater, English and technical communicat philosophy, political science, psychology, econom etymology, or foreign language.	ion,	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
	No free electives applied to the degree. Group 2 Major Requirements Group 1 Core Requirements	Total Hours	0 32 31 63		Maximum Free Electives Group 2 Major Requirements Group 1 Core Requirements  Total Hours*  *S&T advisor permission is required to transfer more than 69 credits toward the S&T Petroleum Engineering degree.	0 32 26 58