

## Webster University — Missouri S&T

### General Engineering

Transfer Guide Effective as of Fall 2024

Complete Group 1 - Core Requirements and Group 2 - Major Requirements for major of choice.

## 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.

<u>Webster University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>	
MATH 1610 and	Calculus I and	10	MATH 1214 and	Calculus I and
MATH 1620	Calculus II		MATH 1215	Calculus II <small>Grade of C or better is required for both courses.</small>
MATH 2800	Differential Equations	3	MATH 3304	Elementary Differential Equations
PHYS 2030, 2031	University Physics I and Lab	4	PHYSICS 1135	Engineering Physics I <small>Grade of C or better is required.</small>
PHYS 2040, 2041	University Physics II and Lab	4	PHYSICS 2135	Engineering Physics II <small>Grade of C or better is required.</small>
CHEM 1100, 1101	General Chemistry I and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab
WRIT 1010	The Craft of College Writing	3	ENGLISH 1120	Exposition and Argumentation
ECON 2020 or	Principles of Microeconomics or	3	ECON 1100 or	Principles of Microeconomics or
ECON 2030	Principles of Macroeconomics		ECON 1200	Principles of Macroeconomics
Total Hours		31	Total Hours	
			30	

## 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/Biomaterials or Biomaterials**  
**Ceramic Engineering**  
**Chemical Engineering and Biochemistry Emphasis**  
**Civil Engineering**  
**Computer Engineering**  
**Electrical Engineering**

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

Engineering Major Requirements are detailed on the following pages.

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

**Humanities/Social Science (HSS) Electives:** HSS electives may include any art, English and technical communication, etymology, foreign language, music, philosophy, speech and media studies, or theatre. Your campus may have additional acceptable options. Consult with your advisor or email [transfer@mst.edu](mailto:transfer@mst.edu) with questions. See Missouri S&T online catalog at <https://catalog.mst.edu/undergraduate/degreeprogramsandcourses/> for more information.

## Aerospace Engineering Group 2 Major Requirements

Aerospace Engineering Group 2 Major Requirements			
	<u>Webster University</u>	<u>Semester</u>	<u>Missouri S&amp;T</u>
HIST 1310 or HIST 2300 or POLT 1060	Nineteenth-Century America or Twentieth-Century United States or Intro to American Politics	3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200
SPMC 1040 or WRIT 3200	Public Speaking or Technical Writing	3	SPMS 1185 or ENGLISH 3560
COSC 1550	Computer Programming I	3	CS 1971, 1981
	Literature Elective	3	
Ethics	Ethics Elective <small>Engineering, business, bio, social or other ethics approved by advisor.</small>	3	Ethics
	<i>No free electives applied to the degree.</i>	0	
	Group 2 Major Requirements	15	
	Group 1 Core Requirements	31	
	Total Hours	46	Total Hours*
			45

\*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

Architectural Engineering Group 2 Major Requirements			
	<u>Webster University</u>	<u>Semester</u>	<u>Missouri S&amp;T</u>
HIST1310 or HIST 2300	Nineteenth-Century America or Twentieth-Century United States	3	HISTORY 1300 or HISTORY 1310
Humanities or Social Science or Communication	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language or one communication course from this list: WRIT 3200 or SPMC 1040.	3	Humanities or Social Science or Communication
	<i>No free electives applied to the degree.</i>	0	
	Group 2 Major Requirements	6	
	Group 1 Core Requirements	31	
	Total Hours	37	Total Hours*
			36

\*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

<u>Webster University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
SPMC 1040	Public Speaking	3	SP&MS 1185	Principles of Speech	3
WRIT 3200	Technical Writing	3	ENGLISH 3560	Technical Writing	3
HIST 1310 or HIST 2300 or POLT 1060	Nineteenth-Century America or Twentieth-Century United States or Intro to American Politics	3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200	American History to 1877 or American History since 1877 or American Government	3
CHEM 1110, 1111	General Chemistry II and Lab	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&amp;T degree requirement. Will transfer as general credit.</small>	3
CHEM 2100	Organic Chemistry I	3	CHEM 2210	Organic Chemistry I	3
CHEM 2110 or BIOL 1550, 1551 or BIOL 3050, 3051	Organic Chemistry II (3) or Essentials of Biology I and Lab (5) or Genetics and Lab (4)	4	CHEM 2220, 2229 or BIO SCI 1113, 1219 or BIO SCI 2223	Organic Chemistry II and Lab or General Biology and Lab or General Genetics <small>Applies to degree as Track Elective.</small>	4
BIOL 3080, 3081	Cell Biology and Lab	4	BIO SCI 2213, 2219	Cell Biology and Lab	4
COSC 1550	Computer Programming I	3	CS 1971,1981*	Intro to Programming Methodology and Lab* (C++) <small>*Course will be substituted for CS 1500.</small>	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	30		Group 2 Major Requirements	29
	Group 1 Core Requirements	31		Group 1 Core Requirements	30
	Total Hours	61		Total Hours*	59

\*S&T advisor permission is required to transfer more than 68 credit hours toward the degree.

## Biomedical Engineering-Biomaterials Group 2 Major Requirements

<u>Webster University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
SPMC 1040	Public Speaking	3	SP&MS 1185	Principles of Speech	3
WRIT 3200	Technical Writing	3	ENGLISH 3560	Technical Writing	3
HIST 1310 or HIST 2300 or POLT 1060	Nineteenth-Century America or Twentieth-Century United States or Intro to American Politics	3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200	American History to 1877 or American History since 1877 or American Government	3
CHEM 1110, 1111	General Chemistry II and Lab	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&amp;T degree requirement. Will transfer as general credit.</small>	3
CHEM 2100	Organic Chemistry I	3	CHEM 2210	Organic Chemistry I	3
CHEM 2110	Organic Chemistry II	3	CHEM 2220, 2229*	Organic Chemistry II and Lab* <small>CHEM 2229 Lab applies to the degree as a Track Elective (non-engineering).</small>	4
BIOL 1550, 1551	Essentials of Biology I and Lab	5	BIO SCI 1113*, 1219*	General General Biology* and Lab* <small>*Applies to degree as Track Elective (Non-engineering).</small>	4
BIOL 3080, 3081	Cell Biology and Lab	4	BIO SCI 2213, 2219	Cell Biology and Lab	4
COSC 1550	Computer Programming I	3	CS 1971,1981*	Intro to Programming Methodology and Lab* (C++) <small>*Course will be substituted for CS 1500.</small>	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	31		Group 2 Major Requirements	30
	Group 1 Core Requirements	31		Group 1 Core Requirements	30
	Total Hours	62		Total Hours*	60

\*S&T advisor permission is required to transfer more than 65 credits toward the S&T Biomedical Engineering degree.

## Ceramic Engineering Group 2 Major Requirements

Webster University	Semester	Missouri S&T
HIST1310 or HIST 2300 or POLT 1060	Nineteenth-Century America or Twentieth-Century United States or Intro to American Politics 3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200 3
CHEM 2100 or CHEM 4100	Organic Chemistry I (3) or Inorganic Chemistry (3) 3	CHEM 2210 or CHEM 3310 3 <small>Will satisfy the advanced chemistry elective requirement.</small>
CHEM 1110, 1111	General Chemistry II and Lab 4	CHEM 1320, 1510* 3 <small>*CHEM 1510 is not an S&amp;T degree requirement. Will transfer as general credit.</small>
SPMC 1040 or HSS Elective	Public Speaking or Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language. 3	SPMS 1185 or HSS Elective 3 Principles of Speech or Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language. 3	Humanities or Social Science 3 Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language. 3	Humanities or Social Science 3 Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.
	<i>No free electives applied to the degree.</i> 0	Maximum Free Electives 0
	Group 2 Major Requirements 19	Group 2 Major Requirements 18
	Group 1 Core Requirements 31	Group 1 Core Requirements 30
Total Hours	50	Total Hours* 48

\*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

Webster University	Semester	Missouri S&T
SPMC 1040	Public Speaking 3	SP&MS 1185 3 Principles of Speech
WRIT 3200	Technical Writing 3	ENGLISH 3560 3 Technical Writing
HIST1310 or HIST 2300 or POLT 1060	Nineteenth-Century America or Twentieth-Century United States or Intro to American Politics 3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200 3 American History to 1877 or American History since 1877 or American Government
CHEM 1110, 1111	General Chemistry II and Lab 4	CHEM 1320, 1510* 3 General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&amp;T degree requirement. Will transfer as general credit.</small>
CHEM 2100	Organic Chemistry I 3	CHEM 2210 3 Organic Chemistry I
CHEM 2110 or CHEM 3300, 3301 or BIOL 3080, 3081 or CHEM 3100, 3101, 3111	Organic Chemistry II (3) or Analytical Chemistry and Lab (4) Cell Biology and Lab or Biochemistry I with Lab AND Biochemistry II Lab* 4 <small>*CHEM 3110 Biochemistry II is not an S&amp;T degree requirement. If taken, will transfer as CHEM 4620.</small>	CHEM 2220 or CHEM 2510 or BIO SCI 2213, 2219 or CHEM 4610, 4619 8 Organic Chemistry II (3) or Analytical Chemistry (4) or Cell Biology and Lab (4) or General Biochemistry and Lab (5) <small>Will satisfy science elective requirement. Select up to 9 hours from these options or CHEM 2219 Organic Chemistry Lab.</small>
COSC 1550	Computer Programming I 3	CS 1971, 1981* 3 Intro to Programming Methodology and Lab* (C++) <small>*Course will be substituted for CS 1500.</small>
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language. 3	Humanities or Social Science 3 Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.
	<i>No free electives applied to the degree.</i> 0	Maximum Free Electives 0
	Group 2 Major Requirements 26	Group 2 Major Requirements 29
	Group 1 Core Requirements 31	Group 1 Core Requirements 30
Total Hours	57	Total Hours* 59

\*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

<u>Webster University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
SPMC 1040 or WRIT 3200	Public Speaking or Technical Writing	3	SPMS 1185 or ENGLISH 3560	Principles of Speech or Technical Writing	3
HIST1310 or HIST 2300 or POLT 1060	Nineteenth-Century America or Twentieth-Century United States or Intro to American Politics	3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200	American History to 1877 or American History since 1877 or American Government	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	9		Group 2 Major Requirements	9
	Group 1 Core Requirements	31		Group 1 Core Requirements	30
	Total Hours	40		Total Hours*	39

\*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

<u>Webster University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
SPMC 1040	Public Speaking	3	SPMS 1185	Principles of Speech	3
WRIT 3200	Technical Writing	3	ENGLISH 3560	Technical Writing	3
HIST1310 or HIST 2300 or POLT 1060	Nineteenth-Century America or Twentieth-Century United States or Intro to American Politics	3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200	American History to 1877 or American History since 1877 or American Government	3
COSC 1550	Computer Programming I	3	CS 1971,1981*	Intro to Programming Methodology and Lab* (C++) <small>*Course will be substituted for CS 1500.</small>	3
CHEM 2100 or BIOL 3080 or BIOL 3050, 3051	Organic Chemistry I (3) or Cell Biology (3) or Genetics and Lab (4)	3	CHEM 2210 or BIO SCI 2213 or BIO SCI 2223	Organic Chemistry I (3) or Cell Biology (3) or General Genetics (3) <small>Satisfies a required engineering/science elective.</small>	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Electives	Maximum Free Electives	3	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	21		Group 2 Major Requirements	21
	Group 1 Core Requirements	31		Group 1 Core Requirements	30
	Total Hours	52		Total Hours*	51

\*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

<u>Webster University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
SPMC 1040	Public Speaking	3	SPMS 1185	Principles of Speech	3
WRIT 3200	Technical Writing	3	ENGLISH 3560	Technical Writing	3
HIST1310 or HIST 2300 or POLT 1060	Nineteenth-Century America or Twentieth-Century United States or Intro to American Politics	3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200	American History to 1877 or American History since 1877 or American Government	3
COSC 1550	Computer Programming I	3	CS 1971,1981*	Intro to Programming Methodology and Lab* (C++) <small>*Course will be substituted for CS 1500.</small>	3
CHEM 2100 or BIOL 3080 or BIOL 3050, 3051	Organic Chemistry I (3) or Cell Biology (3) or Genetics and Lab (4)	3	CHEM 2210 or BIO SCI 2213 or BIO SCI 2223	Organic Chemistry I (3) or Cell Biology (3) or General Genetics (3) <small>Satisfies a required engineering/science elective.</small>	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Electives	Maximum Free Electives	3	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	21		Group 2 Major Requirements	21
	Group 1 Core Requirements	31		Group 1 Core Requirements	30
	Total Hours	52		Total Hours*	51

\*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

<u>Webster University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
PSYC 1030	Intro to Psychology	3	PSYCH 1101	General Psychology	3
HIST1310 or HIST 2300 or POLT 1060	Nineteenth-Century America or Twentieth-Century United States or Intro to American Politics	3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200	American History to 1877 or American History since 1877 or American Government	3
SPMC 1040	Public Speaking	3	SPMS 1185	Principles of Speech	3
WRIT 3200	Technical Writing	3	ENGLISH 3560	Technical Writing	3
COSC 1550	Computer Programming I	3	CS 1971,1981	Intro to Programming Methodology and Lab* (C++)	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	3	Electives	Maximum Free Electives	0
	Group 2 Major Requirements	21		Group 2 Major Requirements	18
	Group 1 Core Requirements	31		Group 1 Core Requirements	30
	Total Hours	52		Total Hours*	61

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

## Environmental Engineering Group 2 Major Requirements

<u>Webster University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
SPMC 1040 or WRIT 3200	Public Speaking or Technical Writing	3	SPMS 1185 or ENGLISH 3560	Principles of Speech or Technical Writing	3
HIST1310 or HIST 2300	Nineteenth-Century America or Twentieth-Century United States	3	HISTORY 1300 or HISTORY 1310	American History to 1877 or American History since 1877	3
CHEM 1110, 1111	General Chemistry II and Lab	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&amp;T degree requirement. Will transfer as general credit.</small>	3
BIOL 1550, 1551	Essentials of Biology and Lab	5	BIO SCI 1113, 1219*	General Biology (3) and Lab* (1) <small>*BIO SCI 1219 is not an S&amp;T degree requirement, will transfer as general elective credit.</small>	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	18		Group 2 Major Requirements	15
	Group 1 Core Requirements	31		Group 1 Core Requirements	30
	Total Hours	49		Total Hours*	45

\*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

<u>Webster University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
WRIT 3200	Technical Writing	3	ENGLISH 3560	Technical Writing	3
HIST1310 or HIST 2300 or POLT 1060	Nineteenth-Century America or Twentieth-Century United States or Intro to American Politics	3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200	American History to 1877 or American History since 1877 or American Government	3
COSC 1550	Computer Programming I	3	CS 1971,1981	Intro to Programming Methodology and Lab* (C++)	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	15		Group 2 Major Requirements	15
	Group 1 Core Requirements	31		Group 1 Core Requirements	30
	Total Hours	46		Total Hours*	45

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

## Mechanical Engineering Group 2 Major Requirements

<u>Webster University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
HIST 1310 or HIST 2300 or POLT 1060	Nineteenth-Century America or Twentieth-Century United States or Intro to American Politics	3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200	American History to 1877 or American History since 1877 or American Government	3
SPMC 1040 or WRIT 3200	Public Speaking or Technical Writing	3	SPMS 1185 or ENGLISH 3560	Principles of Speech or Technical Writing	3
COSC 1550	Computer Programming I	3	CS 1971,1981	Intro to Programming Methodology and Lab* (C++)	3
	Literature Elective	3		Literature Elective	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	15		Group 2 Major Requirements	15
	Group 1 Core Requirements	31		Group 1 Core Requirements	30
	Total Hours	46		Total Hours*	45

\*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

<u>Webster University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
SPMC 1040 or WRIT 3200	Public Speaking or Technical Writing	3	SPMS 1185 or ENGLISH 3560	Principles of Speech or Technical Writing	3
HIST 1310 or HIST 2300 or POLT 1060	Nineteenth-Century America or Twentieth-Century United States or Intro to American Politics	3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200	American History to 1877 or American History since 1877 or American Government	3
CHEM 1110, 1111	General Chemistry II and Lab	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&amp;T degree requirement. Will transfer as general credit.</small>	3
CHEM 2100 or CHEM 4100	Organic Chemistry I or Inorganic Chemistry (3)	3	CHEM 2210 or CHEM 3310	Organic Chemistry I (3) or Inorganic Chemistry I (3) <small>Not specifically required for the degree but will satisfy out-of-department technical elective requirement</small>	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Electives	Maximum Free Electives	3	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	22		Group 2 Major Requirements	21
	Group 1 Core Requirements	31		Group 1 Core Requirements	30
	Total Hours	53		Total Hours*	51

\*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

<u>Webster University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
WRIT 3200	Technical Writing	3	ENGLISH 3560	Technical Writing	3
HIST1310 or HIST 2300 or POLT 1060	Nineteenth-Century America or Twentieth-Century United States or Intro to American Politics	3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200	American History to 1877 or American History since 1877 or American Government	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	12		Group 2 Major Requirements	12
	Group 1 Core Requirements	31		Group 1 Core Requirements	30
	Total Hours	43		Total Hours*	42

\*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

<u>Webster University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
SPMC 1040 or WRIT 3200	Public Speaking or Technical Writing	3	SPMS 1185 or ENGLISH 3560	Principles of Speech or Technical Writing	3
HIST1310 or HIST 2300 or POLT 1060	Nineteenth-Century America or Twentieth-Century United States or Intro to American Politics	3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200	American History to 1877 or American History since 1877 or American Government	3
COSC 1550	Computer Programming I	3	CS 1971,1981	Intro to Programming Methodology and Lab* (C++)	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Electives	Maximum Free Electives	6	Electives	Maximum Free Electives	6
	Group 2 Major Requirements	21		Group 2 Major Requirements	21
	Group 1 Core Requirements	31		Group 1 Core Requirements	30
	Total Hours	52		Total Hours*	51

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

## Petroleum Engineering Group 2 Major Requirements

<u>Webster University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
WRIT 3200	Technical Writing	3	ENGLISH 3560	Technical Writing	3
HIST1310 or HIST 2300 or POLT 1060	Nineteenth-Century America or Twentieth-Century United States or Intro to American Politics	3	HISTORY 1300 or HISTORY 1310 or POL SCI 1200	American History to 1877 or American History since 1877 or American Government	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	12		Group 2 Major Requirements	12
	Group 1 Core Requirements	31		Group 1 Core Requirements	30
	Total Hours	43		Total Hours*	42

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