

# Southwest Baptist 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>Southwest Baptist University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
MAT 1195	Calculus I	5	MATH 1214	Calculus I <small>Grade of C or better is required.</small>	4
MAT 2255	Calculus II	4	MATH 1215	Calculus II <small>Grade of C or better is required.</small>	4
MAT 2263	Calculus III	3	MATH 2222	Calculus III <small>Grade of C or better is required.</small>	4
MAT 3363	Differential Equations	3	MATH 3304	Elementary Differential Equations	3
PHY 2214, 2211	University Physics I and Lab	5	PHYSICS 1135	Engineering Physics I <small>Grade of C or better is required.</small>	4
PHY 2224, 2221	University Physics II and Lab	5	PHYSICS 2135	Engineering Physics II <small>Grade of C or better is required.</small>	4
CHE 1115	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab	5
ENG 1113	English Composition I	3	ENGLISH 1120	Exposition and Argumentation	3
ECO 2023 or ECO 2033	Principles of Microeconomics or Principles of Macroeconomics	3	ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3
Total Hours		36	Total Hours		34

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

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

**Aerospace Engineering**  
**Architectural Engineering**  
**Biomedical Engineering/Biomanufacturing or Biomaterials**  
**Ceramic Engineering**  
**Chemical Engineering and Biochemistry Emphasis**  
**Civil Engineering**  
**Computer Engineering**  
**Electrical Engineering**

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

Engineering Major Requirements are detailed on the following pages.

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

**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

<u>Southwest Baptist University</u>	<u>Semester</u>	<u>Missouri S&amp;T</u>			
HIS 1123 or HIS 2213 or HIS 2223 or POL 1113	Intro to History of World Civilization or History of US 1492-1865 or History of US 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
ENG 2213 or COM 1103 or ENG 4003	English Composition II or Fundamentals of Speech Communication or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
PHY 3233	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
MAT 3323 or MAT 3343	Linear Algebra or Probability and Statistics	3	MATH 3108 or STAT 3115	Linear Algebra I or Engineering Statistics <small>Will satisfy the Advanced Math/Comp Sci elective requirement.</small>	3
	Literature Elective	3		Literature Elective	3
Ethics	Ethics Elective <small>Engineering, business, bio, social or other ethics approved by advisor.</small>	3	Ethics	Ethics Elective <small>Engineering, business, bio, social or other ethics approved by advisor.</small>	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	18		Group 2 Major Requirements	18
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
<b>Total Hours</b>		<b>54</b>		<b>Total Hours*</b>	<b>52</b>

\*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

<u>Southwest Baptist University</u>	<u>Semester</u>	<u>Missouri S&amp;T</u>			
HIS 1123 (or HIS 2213 or HIS 2223)	Intro to History of World Civilization (or History of US 1492-1865 or History of US 1865-Present) <small>*HIS 1123 is preferred; 2213 or 2223 will also be accepted.</small>	3	HISTORY 1200* (or HISTORY 1300 or HISTORY 1310)	Modern Western Civilization* (or American History to 1877 or American History since 1877) <small>*HISTORY 1200 is preferred; 1300 or 1310 will also be accepted.</small>	3
PHY 3233	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 4233	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
MAT 3343	Probability and Statistics	3	STAT 3115	Engineering Statistics* <small>*Will be substituted for STAT 3113.</small>	3
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: ENG 2213, ENG 4003, COM 1103.	3	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: ENGLISH 1160, 1600, 3560 or SPMS 1185.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	15		Group 2 Major Requirements	14
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
<b>Total Hours</b>		<b>51</b>		<b>Total Hours*</b>	<b>48</b>

\*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>Southwest Baptist University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
COM 1103	Fundamentals of Speech Communication	3	SP&MS 1185	Principles of Speech	3
ENG 4003	Technical Writing	3	ENGLISH 3560	Technical Writing	3
HIS 1123 or HIS 2213 or HIS 2223 or POL 1113	Intro to History of World Civilization or History of US 1492-1865 or History of US 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
CHE 1121, 1124	General Chemistry II and Lab	5	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
CHE 3304	Organic Chemistry	4	CHEM 2210, 2219	Organic Chemistry I and Lab	4
CHE 3314 or BIO 1003, 1001 or BIO 3323	Organic Chemistry II (4) or Principles of Biology and Lab (4) or Genetics (3)	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
BIO 2204	Human Anatomy and Physiology I	4	BIO SCI 3333, 3339	Anatomy and Physiology I and Lab	4
CIS 1033	Foundations of Computer Science	3	CS 1500	Computational Problem Solving	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	32		Group 2 Major Requirements	30
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	68		Total Hours*	64

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

## Biomedical Engineering-Biomaterials Group 2 Major Requirements

<u>Southwest Baptist University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
COM 1103	Fundamentals of Speech Communication	3	SP&MS 1185	Principles of Speech	3
ENG 4003	Technical Writing	3	ENGLISH 3560	Technical Writing	3
HIS 1123 or HIS 2213 or HIS 2223 or POL 1113	Intro to History of World Civilization or History of US 1492-1865 or History of US 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
CHE 1121, 1124	General Chemistry II and Lab	5	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
CHE 3304	Organic Chemistry	4	CHEM 2210, 2219*	Organic Chemistry I and Lab* <small>*CHEM 2219 Lab applies to the degree as a Track Elective (non-engineering).</small>	4
CHE 3314	Organic Chemistry II	4	CHEM 2220, 2229*	Organic Chemistry II and Lab* <small>CHEM 2229 Lab applies to the degree as a Track Elective (non-engineering).</small>	4
BIO 1003, 1001	Principles of Biology and Lab	4	BIO SCI 1113*, 1219*	General General Biology* and Lab* <small>*Applies to degree as Track Elective (Non-engineering).</small>	4
BIO 2204	Human Anatomy and Physiology I	4	BIO SCI 3333, 3339	Human Anatomy and Physiology I and Lab	4
CIS 1033	Foundations of Computer Science	3	CS 1500	Computational Problem Solving	3
PHY 3233	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	36		Group 2 Major Requirements	34
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	72		Total Hours*	68

\*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

<u>Southwest Baptist University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
HIS 1123 or HIS 2213 or HIS 2223 or POL 1113	Intro to History of World Civilization or History of US 1492-1865 or History of US 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
PHY 3233	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CHE 3304	Organic Chemistry	4	CHEM 2210	Organic Chemistry I <i>Will satisfy the advanced chemistry elective requirement.</i>	3
CHE 1121, 1124	General Chemistry II and Lab	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <i>*CHEM 1510 is not an S&amp;T degree requirement. Will transfer as general credit.</i>	3
MAT 3343	Probability and Statistics	3	STAT 3115*	Engineering Statistics* <i>*Will be substituted for STAT 3113.</i>	3
PHY 3363	Modern Physics	3	PHYS 2305	Intro to Modern Physics	3
ENG 2213 or COM 1103 or HSS Elective	English Composition II or Fundamentals of Speech Communication or Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	ENGLISH 1160 or SPMS 1185 or HSS Elective	Writing and Research or Principles of Speech or 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	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	27
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	66		Total Hours*	61

\*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

<u>Southwest Baptist University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
COM 1103	Fundamentals of Speech Communication	3	SP&MS 1185	Principles of Speech	3
ENG 4003	Technical Writing	3	ENGLISH 3560	Technical Writing	3
HIS 1123 or HIS 2213 or HIS 2223 or POL 1113	Intro to History of World Civilization or History of US 1492-1865 or History of US 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
CHE 1121, 1124	General Chemistry II and Lab	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <i>*CHEM 1510 is not an S&amp;T degree requirement. Will transfer as general credit.</i>	3
CHE 3304	Organic Chemistry	4	CHEM 2210, 2219*	Organic Chemistry I and Lab* <i>*The lab will apply to the degree as 1 of the 9 required science elective credits (below)</i>	4
CHE 3314 or BIO 2213	Organic Chemistry II (4) or Intro to Microbiology (4) <i>Select up to 8 hours.</i>	8	CHEM 2220, 2229* or BIO SCI 3313, 3319	Organic Chemistry II (3) or Microbiology and Lab (5) <i>Will satisfy 8 of the 9 required science elective credits. Select up to 8 hours from these options. *CHEM 2229 is not an S&amp;T degree requirement, will transfer as general elective credit.</i>	8
CIS 1033	Foundations of Computer Science	3	CS 1500	Computational Problem Solving	3
MAT 3343	Probability and Statistics	3	STAT 3115*	Engineering Statistics* <i>*Will be substituted for STAT 3113.</i>	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	35		Group 2 Major Requirements	33
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	71		Total Hours*	67

\*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>Southwest Baptist University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
ENG 2213 or COM 1103 or ENG 4003	English Composition II or Fundamentals of Speech Communication or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
HIS 1123 or HIS 2213 or HIS 2223 or POL 1113	Intro to History of World Civilization or History of US 1492-1865 or History of US 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
PHY 3233	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 4233	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
MAT 3343	Probability and Statistics	3	STAT 3115*	Engineering Statistics*	3
				*Will be substituted for STAT 3113.	
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	17
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	54		Total Hours*	51

\*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

Southwest Baptist University		Semester	Missouri S&T		
COM 1103	Fundamentals of Speech Communication	3	SPMS 1185	Principles of Speech	3
ENG 2213 or ENG 4003	English Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIS 1123 or HIS 2213 or HIS 2223 or POL 1113	Intro to History of World Civilization or History of US 1492-1865 or History of US 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
CIS 1033	Foundations of Computer Science	3	CS 1500	Computational Problem Solving	3
PHY 3233 or PHY 4233 or PHY 3363 or CHE 3304 or BIO 3324	Statics (3) or Dynamics (3) or Modern Physics I (3) Organic Chemistry I (4) or Genetics (4)	3	CIV ENG 2200 or MECH ENG 2350 or PHYSICS 2311 or CHEM 2210 or BIO SCI 2223	Engineering Mechanics-Statics (3) or Engineering Mechanics-Dynamics (2) or Modern Physics I (3) Organic Chemistry I (4) or General Genetics (3) <small>Satisfies a required engineering/science elective.</small>	3
MAT 3323	Linear Algebra	3	MATH 3108	Linear Algebra <small>Will satisfy a required math elective.</small>	3
MAT 3343	Probability and Statistics	3	STAT 3115*	Engineering Statistics* <small>*Will be substituted for STAT 3117.</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	27		Group 2 Major Requirements	27
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	63		Total Hours*	61

\*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

Southwest Baptist University		Semester	Missouri S&T		
COM 1103	Fundamentals of Speech Communication	3	SPMS 1185	Principles of Speech	3
ENG 2213 or ENG 4003	English Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIS 1123 or HIS 2213 or HIS 2223 or POL 1113	Intro to History of World Civilization or History of US 1492-1865 or History of US 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
CIS 1033	Foundations of Computer Science	3	CS 1500	Computational Problem Solving	3
PHY 3233 and PHY 4233 <small>BOTH of the courses above or ONE of the courses below.</small>	Statics (3) and Dynamics (3) <small>Both courses above combined or any one of the following courses will satisfy a required engineering science elective.</small>	3	CIV ENG 2200 and MECH ENG 2350 <small>BOTH of the courses above or ONE of the courses below.</small>	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (3) <small>Both courses above combined or any one of the following courses will satisfy a required engineering science elective.</small>	3
OR PHY 3363 or CHE 3304 or BIO 3324	OR Modern Physics I (3) Organic Chemistry I (4) or Genetics (4)	3	OR PHYSICS 2311 or CHEM 2210 or BIO SCI 2223	OR Modern Physics I (3) Organic Chemistry I (4) or General Genetics (3)	3
MAT 3323	Linear Algebra	3	MATH 3108	Linear Algebra	3
MAT 3343	Probability and Statistics	3	STAT 3115*	Engineering Statistics* <small>*Will be substituted for STAT 3117.</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	27		Group 2 Major Requirements	27
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	63		Total Hours*	61

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

## Engineering Management Group 2 Major Requirements

<u>Southwest Baptist University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
PSY 1013	General Psychology	3	PSYCH 1101	General Psychology	3
HIS 1123 or HIS 2213 or HIS 2223 or POL 1113	Intro to History of World Civilization or History of US 1492-1865 or History of US 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
COM 1103	Fundamentals of Speech Communication	3	SPMS 1185	Principles of Speech	3
ENG 2213 or ENG 4003	English Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
PHY 3233	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 4233	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
MAT 3343	Probability and Statistics	3	STAT 3115	Engineering Statistics	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	27		Group 2 Major Requirements	23
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	<b>Total Hours</b>	<b>63</b>		<b>Total Hours*</b>	<b>61</b>

\*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>Southwest Baptist University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
ENG 2213 or COM 1103 or ENG 4003	English Composition II or Fundamentals of Speech Communication or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
HIS 1123 or HIS 2213 or HIS 2223	Intro to History of World Civilization or History of US 1492-1865 or History of US 1865-Present	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310	Modern Western Civilization or American History to 1877 or American History since 1877	3
CHE 1121, 1124	General Chemistry II and Lab	5	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
BIO 1003, 1001	Principles of Biology and Lab	4	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
PHY 3233	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 4233	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
MAT 3343	Probability and Statistics	3	STAT 3115*	Engineering Statistics* <small>*Will be substituted for STAT 3113.</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	27		Group 2 Major Requirements	23
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	<b>Total Hours</b>	<b>63</b>		<b>Total Hours*</b>	<b>57</b>

\*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>Southwest Baptist University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
ENG 4003	Technical Writing	3	ENGLISH 3560	Technical Writing	3
HIS 1123 or HIS 2213 or HIS 2223 or	Intro to History of World Civilization or History of US 1492-1865 or History of US 1865-Present or	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or	Modern Western Civilization or American History to 1877 or American History since 1877 or	3
POL 1113	American Government and Politics		POL SCI 1200	American Government	
CIS 1033	Foundations of Computer Science	3	CS 1500	Computational Problem Solving	3
PHY 3233	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 4233	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
MAT 3343	Probability and Statistics	3	STAT 3115	Engineering Statistics	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	24		Group 2 Major Requirements	23
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	60		Total Hours*	57

\*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>Southwest Baptist University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
HIS 1123 or HIS 2213 or HIS 2223 or	Intro to History of World Civilization or History of US 1492-1865 or History of US 1865-Present or	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or	Modern Western Civilization or American History to 1877 or American History since 1877 or	3
POL 1113	American Government and Politics		POL SCI 1200	American Government	
ENG 2213 or COM 1103 or ENG 4003	English Composition II or Fundamentals of Speech Communication or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
PHY 3233	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
MAT 3323 or MAT 3343	Linear Algebra or Probability and Statistics	3	MATH 3108 or STAT 3115	Linear Algebra I or Engineering Statistics	3
	Literature Elective	3		<small>Will satisfy the Advanced Math/Statistics elective requirement.</small> 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	18		Group 2 Major Requirements	18
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	54		Total Hours*	52

\*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>Southwest Baptist University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
ENG 2213 or COM 1103 or ENG 4003	English Composition II or Fundamentals of Speech Communication or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
HIS 1123 or HIS 2213 or HIS 2223 or POL 1113	Intro to History of World Civilization or History of US 1492-1865 or History of US 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
PHY 3233	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
MAT 3343	Probability and Statistics	3	STAT 3115*	Engineering Statistics*	3
CHE 1121, 1124	General Chemistry II and Lab	5	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
CHE 3304 or PHY 3363	Organic Chemistry I (4) or Modern Physics (3)	3	CHEM 2210 or PHYSICS 2305	Organic Chemistry I (4) or Intro to Modern Physics (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	5	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	31		Group 2 Major Requirements	27
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	67		Total Hours*	61

\*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>Southwest Baptist University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
ENG 2213 or ENG 4003	English Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HIS 1123 or HIS 2213 or HIS 2223 or POL 1113	Intro to History of World Civilization or History of US 1492-1865 or History of US 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
MAT 3343	Probability and Statistics	3	STAT 3115	Engineering Statistics	3
PHY 3233	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 4233	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
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	21		Group 2 Major Requirements	20
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	57		Total Hours*	54

\*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>Southwest Baptist University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
ENG 2213 or COM 1103 or ENG 4003	English Composition II or Fundamentals of Speech Communication or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
HIS 1123 or HIS 2213 or HIS 2223 or POL 1113	Intro to History of World Civilization or History of US 1492-1865 or History of US 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
MAT 3323	Linear Algebra	3	MATH 3108	Linear Algebra I	3
PHY 3233	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
MAT 3343	Probability and Statistics	3	STAT 3115	Engineering Statistics	3
PHY 3363	Modern Physics	3	PHYSICS 2305	Intro to Modern Physics	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	30		Group 2 Major Requirements	30
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	66		Total Hours*	64

\*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>Southwest Baptist University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
ENG 2213 or ENG 4003	English Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing (preferred)	3
HIS 1123 or HIS 2213 or HIS 2223 or POL 1113	Intro to History of World Civilization or History of US 1492-1865 or History of US 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
PHY 3233	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHY 4233	Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
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	18		Group 2 Major Requirements	17
	Group 1 Core Requirements	36		Group 1 Core Requirements	34
	Total Hours	54		Total Hours*	51

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