

# Lincoln 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>Lincoln University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
MAT 123	Calculus I	5	MATH 1214	Calculus I <small>Grade of C or better is required.</small>	4
MAT 203	Calculus II	5	MATH 1215	Calculus II <small>Grade of C or better is required.</small>	4
MAT 304	Calculus III	5	MATH 2222	Calculus III <small>Grade of C or better is required.</small>	4
MAT 324	Differential Equations	3	MATH 3304	Elementary Differential Equations	3
PHY 201	General Physics I	5	PHYSICS 1135	Engineering Physics I <small>Grade of C or better is required.</small>	4
PHY 202	General Physics II	5	PHYSICS 2135	Engineering Physics II <small>Grade of C or better is required.</small>	4
CHM 101	General Chemistry I	4	CHEM 1310, 1319	General Chemistry I and Lab	5
ENG 101	Composition and Rhetoric I	3	ENGLISH 1120	Exposition and Argumentation	3
ECO 202 or ECO 201	Microeconomics or Macroeconomics	3	ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3
Total Hours		38	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>Lincoln University</u>	<u>Semester</u>	<u>Missouri S&amp;T</u>	
HIS 102 or HIS 205 or HIS 206 or PSC 203	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	3
ENG 102 or SPT 206 CS 237	3	ENGLISH 1160 or SPMS 1185 CS 1971, 1981	3
MAT 403 or MAT 415	3	MATH 3108 or STAT 3115	3
Literature	3	Literature	3
PHI 203 or PHI 304	3	PHILOS 1130 or PHILOS 3235	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	38	Group 1 Core Requirements	34
Total Hours	56	Total Hours*	52

\*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>Lincoln University</u>	<u>Semester</u>	<u>Missouri S&amp;T</u>	
HIS 102 (or HIS 205 or HIS 206)	3	HISTORY 1200* (or HISTORY 1300 or HISTORY 1310)	3
CET 212	3	CIV ENG 2401	3
MAT 415	3	STAT 3115	3
Humanities or Social Science or Communication	3	Humanities or Social Science or Communication	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	38	Group 1 Core Requirements	34
Total Hours	50	Total Hours*	46

\*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>Lincoln University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
SPT 206	Fundamentals of Speech	3	SP&MS 1185	Principles of Speech	3
HIS 102 or HIS 205 or HIS 206 or PSC 203	World Civilization II or United States History I or United States History II or American National Government	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
CHM 102	General Chemistry II	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
CHM 301, 303L	Organic Chemistry I and Lab	4	CHEM 2210, 2219	Organic Chemistry I and Lab	4
CHM 302, 304 or BIO 103, 104L or BIO 310	Organic Chemistry II and Lab or Principles of Biology and Lab or General Genetics	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 312	Molecular Biology of the Cell	4	BIO SCI 2213, 2219	Cell Biology and Lab	4
BIO 208, 209L	Human Anatomy and Physiology and Lab	5	BIO SCI 3333, 3339	Anatomy and Physiology I and Lab	4
CS 338 or CS 237*	Object-Oriented Programming Using C++ or Intro to C++ Programming	3	CS 1500 or CS 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* C++ <small>*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	33		Group 2 Major Requirements	31
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	71		Total Hours*	65

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

## Biomedical Engineering-Biomaterials Group 2 Major Requirements

<u>Lincoln University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
SPT 206	Fundamentals of Speech	3	SP&MS 1185	Principles of Speech	3
HIS 102 or HIS 205 or HIS 206 or PSC 203	World Civilization II or United States History I or United States History II or American National Government	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
CHM 102	General Chemistry II	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
CHM 301, 303L	Organic Chemistry I and Lab	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
CHM 302, 304	Organic Chemistry II and Lab	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 103, 104L	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 312	Molecular Biology of the Cell	4	BIO SCI 2213, 2219	Cell Biology and Lab	4
BIO 208, 209L	Human Anatomy and Physiology and Lab	5	BIO SCI 3333, 3339	Human Anatomy and Physiology I and Lab	4
CS 338 or CS 237*	Object-Oriented Programming Using C++ or Intro to C++ Programming	3	CS 1500 or CS 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* C++ <small>*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	34		Group 2 Major Requirements	32
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	72		Total Hours*	66

\*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>Lincoln University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
HIS 102 or HIS 205 or HIS 206 or PSC 203	World Civilization II or United States History I or United States History II or American National Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200 CHEM 2210, 2219*	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government  Organic Chemistry I (3) and Lab* (1) <small>CHEM 2210 will satisfy the advanced chemistry elective requirement. *CHEM 2219 is not an S&amp;T degree requirement, will transfer as general elective credit.</small>	3    3
CHM 301, 303L	Organic Chemistry I and Lab	4			3
CHM 102	General Chemistry II	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
MAT 415	Mathematical Statistics	3	STAT 3115	Engineering Statistics <small>or any statistics course 3000-level or higher. Satisfies statistics elective requirement.</small>	3
PHY 320	Modern Physics	3	PHYS 2305	Intro to Modern Physics	3
ENG 102 or SPT 206 or HSS Elective	Composition and Rhetoric II or Fundamentals of Speech 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	26		Group 2 Major Requirements	24
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	64		Total Hours*	58

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

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

<u>Lincoln University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
SPT 206	Fundamentals of Speech	3	SP&MS 1185	Principles of Speech	3
HIS 102 or HIS 205 or HIS 206 or PSC 203	World Civilization II or United States History I or United States History II or American National Government	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
CHM 102	General Chemistry II	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
CHM 301, 303L	Organic Chemistry I and Lab	4	CHEM 2210, 2219*	Organic Chemistry I and Lab* <small>*The lab will partially satisfy the 9-hour science elective requirement.</small>	4
CHM 302 or BIO 407	Organic Chemistry II (3) or Molecular Biology of the Cell (4)	7	CHEM 2220 or BIO SCI 2213, 2219	Organic Chemistry II (3) or Cell Biology and Lab (4) <small>Will partially satisfy the 9-hour science elective requirement.</small>	7
CS 338 or CS 237*	Object-Oriented Programming Using C++ or Intro to C++ Programming	3	CS 1500 or CS 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* C++ <small>*Will be substituted for CS 1500.</small>	3
MAT 415	Mathematical 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	30		Group 2 Major Requirements	29
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	68		Total Hours*	63

\*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>Lincoln University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
ENG 102 or SPT 206	Composition and Rhetoric II or Fundamentals of Speech	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HIS 102 or HIS 205 or HIS 206 or PSC 203	World Civilization II or United States History I or United States History II or American National Government	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
CET 212	Elementary Surveying	3	CIV ENG 2401	Fundamentals of Surveying	3
MAT 415	Mathematical 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>	0		Maximum Free Electives	0
	Group 2 Major Requirements	15		Group 2 Major Requirements	15
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	53		Total Hours*	49

\*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

Lincoln University		Semester	Missouri S&T		
SPT 206	Fundamentals of Speech	3	SPMS 1185	Principles of Speech	3
ENG 102	Composition and Rhetoric II	3	ENGLISH 1160	Writing and Research	3
HIS 102 or HIS 205 or HIS 206 or PSC 203	World Civilization II or United States History I or United States History II or American National Government	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
CS 338 or CS 237*	Object-Oriented Programming Using C++ or Intro to C++ Programming	3	CS 1200	Discrete Math for Computer Science	3
PHY 320 or CHM 301 or BIO 407 or BIO 310	Modern Physics (3) or Organic Chemistry I (3) or Molecular Biology (4) or General Genetics (4)	3	CS 1500 or CS 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* C++) <small>*Will be substituted for CS 1500.</small>	3
MAT 403 or MAT 315	Linear Algebra or Techniques of Mathematical Proofs	3	PHYSICS 2305 or CHEM 2210 or BIO SCI 2213 or BIO SCI 2223	Intro to Modern Physics or Organic Chemistry I or Cell Biology or General Genetics <small>Satisfies a required engineering/science elective.</small>	3
MAT 415	Mathematical Statistics	3	MATH 3108 or MATH 3109	Linear Algebra or Foundations of Mathematics <small>Will satisfy a required math elective.</small>	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	STAT 3115	Engineering Statistics <small>Will be substituted for STAT 3117.</small>	3
Electives	Maximum Free Electives	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	Group 2 Major Requirements	27	Electives	Maximum Free Electives	3
	Group 1 Core Requirements	38		Group 2 Major Requirements	30
	Total Hours	65		Group 1 Core Requirements	34
				Total Hours*	64

\*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

Lincoln University		Semester	Missouri S&T		
SPT 206	Fundamentals of Speech	3	SPMS 1185	Principles of Speech	3
ENG 102	Composition and Rhetoric II	3	ENGLISH 1160	Writing and Research	3
HIS 102 or HIS 205 or HIS 206 or PSC 203	World Civilization II or United States History I or United States History II or American National Government	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
CS 338 or CS 237*	Object-Oriented Programming Using C++ or Intro to C++ Programming	3	CS 1500 or CS 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* C++) <small>*Will be substituted for CS 1500.</small>	3
PHY 320 or CHM 301 or BIO 407 or BIO 310	Modern Physics (3) or Organic Chemistry I (3) or Molecular Biology (4) or General Genetics (4)	3	PHYSICS 2305 or CHEM 2210 or BIO SCI 2213 or BIO SCI 2223	Intro to Modern Physics or Organic Chemistry I or Cell Biology or General Genetics <small>Satisfies a required engineering/science elective.</small>	3
MAT 403	Linear Algebra	3	MATH 3108	Linear Algebra	3
MAT 415	Mathematical 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	38		Group 1 Core Requirements	34
	Total Hours	65		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

Lincoln University		Semester	Missouri S&T		
PSY 101	General Psychology	3	PSYCH 1101	General Psychology	3
HIS 102 or HIS 205 or HIS 206 or	World Civilization II or United States History I or United States History II 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
PSC 203	American National Government		POL SCI 1200	American Government	
SPT 206	Fundamentals of Speech	3	SPMS 1185	Principles of Speech	3
ENG 102	Composition and Rhetoric II	3	ENGLISH 1160	Writing and Research	3
CS 237	Intro to C++ Programming	3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
MAT 415	Mathematical 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	24		Group 2 Major Requirements	21
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	62		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

Lincoln University		Semester	Missouri S&T		
ENG 102 or SPT 206	Composition and Rhetoric II or Fundamentals of Speech	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HIS 102 or HIS 205 or HIS 206	World Civilization II or United States History I or United States History II	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310	Modern Western Civilization or American History to 1877 or American History since 1877	3
CHM 102	General Chemistry II	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
BIO 103	Principles of Biology	3	BIO SCI 1113	General Biology	3
MAT 415	Mathematical Statistics	3	STAT 3115	Engineering Statistics*	3
				<small>*Will be substituted for STAT 3113.</small>	
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	19		Group 2 Major Requirements	18
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	57		Total Hours*	52

\*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

Geological Engineering Group 2 Major Requirements					
<u>Lincoln University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
HIS 102 or HIS 205 or HIS 206 or PSC 203	World Civilization II or United States History I or United States History II or American National Government	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
CS 338 or CS 237	Object-Oriented Programming Using C++ or Intro to C++ Programming	3	CS 1500 or CS 1971, 1981	Computational Problem Solving or Intro to Programming Methodology and Lab	3
MAT 415	Mathematical 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	15		Group 2 Major Requirements	15
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	53		Total Hours*	49

\*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

Mechanical Engineering Group 2 Major Requirements					
<u>Lincoln University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
HIS 102 or HIS 205 or HIS 206 or PSC 203	World Civilization II or United States History I or United States History II or American National Government	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 102 or SPT 206 CS 237	Composition and Rhetoric II or Fundamentals of Speech Intro to C++ Programming	3	ENGLISH 1160 or SPMS 1185 CS 1971, 1981	Writing and Research or Principles of Speech Intro to Programming Method and Lab (C++)	3
MAT 403 or MAT 415	Linear Algebra or Mathematical 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	Literature Elective	3	Literature	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	38		Group 1 Core Requirements	34
	Total Hours	56		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>Lincoln University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
ENG 102 or SPT 206	Composition and Rhetoric II or Fundamentals of Speech	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HIS 102 or HIS 205 or HIS 206 or PSC 203	World Civilization II or United States History I or United States History II or American National Government	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 415	Mathematical Statistics	3	STAT 3115	Engineering Statistics	3
CHM 102	General Chemistry II	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
CHM 301 or CHM 401 or PHY 320	Organic Chemistry I or Physical Chemistry I or Modern Physics	3	CHEM 2210 or CHEM 3410 or PHYSICS 2305	Organic Chemistry I or Chemical Thermodynamics I or Intro to Modern Physics or <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	25		Group 2 Major Requirements	24
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	63		Total Hours*	58

\*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>Lincoln University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
ENG 102	Composition and Rhetoric II	3	ENGLISH 1160	Writing and Research	3
HIS 102 or HIS 205 or HIS 206 or PSC 203	World Civilization II or United States History I or United States History II or American National Government	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 415	Mathematical 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	15		Group 2 Major Requirements	15
	Group 1 Core Requirements	38		Group 1 Core Requirements	34
	Total Hours	53		Total Hours*	49

\*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>Lincoln University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
ENG 102 or SPT 206	Composition and Rhetoric II or Fundamentals of Speech	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HIS 102 or HIS 205 or HIS 206 or PSC 203	World Civilization II or United States History I or United States History II or American National Government	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
CS 237	Intro to C++ Programming	3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
MAT 403 or MAT 315	Linear Algebra or Techniques of Mathematical Proofs	3	MATH 3108 or MATH 3109	Linear Algebra or Foundations of Mathematics	3
MAT 415	Mathematical Statistics	3	STAT 3115	Engineering Statistics	3
PHY 320	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	38		Group 1 Core Requirements	34
	Total Hours	68		Total Hours*	64

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## Petroleum Engineering Group 2 Major Requirements

<u>Lincoln University</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
ENG 102	Composition and Rhetoric II	3	ENGLISH 1160	Writing and Research	3
HIS 102 or HIS 205 or HIS 206 or PSC 203	World Civilization II or United States History I or United States History II or American National Government	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
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	38		Group 1 Core Requirements	34
	Total Hours	50		Total Hours*	46

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