

Lindenwood University — Missouri S&T

General Engineering

Transfer Guide Effective as of Fall 2025

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

Students are not required to complete all courses on this guide before transferring to Missouri S&T.

Group 1 - Core Requirements: All Majors Take All Courses

Engineering students take all Group 1 - Core Requirements and Group 2 - Major Requirements for major of choice. Math prerequisites: While they are not part of Missouri S&T engineering degree requirements, algebra and trigonometry skills are critical to success in calculus. To prepare for entry into calculus, students should follow math placement testing and advising recommendations at their college.

<u>Lindenwood University</u>			<u>Semester</u>	<u>Missouri S&T</u>		
MTH 27100	Calculus I	5		MATH 1214	Calculus I	Grade of C or better is required. 4
MTH 27200	Calculus II	5		MATH 1215	Calculus II	Grade of C or better is required. 4
MTH 30300	Calculus III	5		MATH 2222	Calculus III	Grade of C or better is required. 4
MTH 31100	Differential Equations	3		MATH 3304	Elementary Differential Equations	3
PHY 30100	General Physics I	4		PHYSICS 1135	Engineering Physics I	Grade of C or better is required. 4
PHY 30200	General Physics II	4		PHYSICS 2135	Engineering Physics II	Grade of C or better is required. 4
ENGL 15000	Composition I	3		ENGLISH 1120	Exposition and Argumentation	3
		Total Hours	29			Total Hours 26

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

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

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

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

Engineering Major Requirements are detailed on the following pages.

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

This transfer guide is published by Missouri University of Science and Technology and is in effect as of Fall 2025.
Further information or updates are available from Missouri S&T Transfer Admissions at transfer.mst.edu, transfer@mst.edu, or 800-522-0938.

Aerospace Engineering Group 2 Major Requirements

Lindenwood University		Semester	Missouri S&T		
ENGL 17000 or ENGL 31200 or COM 11000	Composition II or Technical Writing or Fundamentals of Oral Communication	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <i>Applies to degree as Gen Ed Communication requirement.</i>	3
CHM 23100, 24100	General Chemistry II and Lab	4	CHEM 1310*, 1319	General Chemistry I and Lab <i>*CHEM 1310 will be substituted for CHEM 1305.</i>	5
CSC 14400	Computer Science I	4	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
EGR 36100	Circuit Theory I	3	ELEC ENG 2800	Electrical Circuits	3
MTH 31500	Linear Algebra I	3	MATH 3108	Linear Algebra I <i>Satisfies the Advanced Math/Comp Sci elective requirement.</i>	3
Ethics	Ethics Elective or other engineering, business, bio, social ethics approved by advisor	3	Ethics	Ethics Elective or other engineering, business, bio, social ethics approved by advisor	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 23600 or LITERATURE or HIST 11100* or HIST 11200* or ARTH 11000 or MUS 16500 or	American Literature II or Other Non-prerequisite Literature or US History: Colony to New Republic* or US History: New Republic to World Power* or Concepts in the Visual Arts or Intro to Music Literature <i>*Satisfies the State of Missouri government requirement.</i>	6	ENGLISH 1222 or LITERATURE or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	American Literature: 1865 to Present or Other Non-prerequisite Literature or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <i>*Satisfies the State of Missouri government requirement.</i>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
GEO 10100 or GEO 11500 or PHRL 21000 or PS 15500* or PSY 10000 or ECON 23020 or ECON 23030 or Foreign Language	World Regional Geography or Physical Geography or Practical Logic for Daily Life or American Government: The Nation* or Principles of Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <i>*Satisfies the State of Missouri government requirement.</i>	6	HISTORY 2110 or HISTORY 2110 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	World Regional Geography or World Regional Geography or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <i>*Satisfies the State of Missouri government requirement.</i>	6
Humanities, Arts, and Social Sciences Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
No free electives applied to the degree.		0	Maximum Free Electives		0
Group 2 Major Requirements		35	Group 2 Major Requirements		35
Group 1 Core Requirements		29	Group 1 Core Requirements		26
Total Hours		64	Total Hours*		61
*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>Lindenwood University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 17000 or ENGL 31200 or COM 11000	Composition II or Technical Writing or Fundamentals of Oral Communication	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHM 23100, 24100	General Chemistry II and Lab	4	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
ESC 10000	Physical Geology with Lab	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 9 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 3 hours Behavioral and Social Sciences. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 23600 or LITERATURE or HIST 11100* or HIST 11200* or ARTH 11000 or MUS 16500 or	American Literature II or Other Non-prerequisite Literature or US History: Colony to New Republic* or US History: New Republic to World Power* or Concepts in the Visual Arts or Intro to Music Literature <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1222 or LITERATURE or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	American Literature: 1865 to Present or Other Non-prerequisite Literature or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 3 hours.					
PHRL 21000 or PS 15500* or PSY 10000 or ECON 23020 or ECON 23030 or Foreign Language	Practical Logic for Daily Life or American Government: The Nation* or Principles of Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3
<i>No free electives applied to the degree.</i>		0	Maximum Free Electives		0
Group 2 Major Requirements		20	Group 2 Major Requirements		20
Group 1 Core Requirements		29	Group 1 Core Requirements		26
Total Hours		49	Total Hours*		46
<small>*S&T advisor permission is required to transfer more than 69 credits toward the S&T Architectural Engineering degree.</small>					

Biomedical Engineering-Biomanufacturing Group 2 Major Requirements

Lindenwood University		Semester	Missouri S&T		
COM 11000	Fundamentals of Oral Communication	3	SP&MS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHM 23100, 24100	General Chemistry II and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 23200, 24200	General Chemistry III and Lab	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) *CHEM 1510 is not a degree requirement, transfers as general elective credit.	3
CHM 36100	Organic Chemistry I	4	CHEM 2210, 2219	Organic Chemistry I and Lab	4
CHM 36200 or BSC 10000 or BSC 24400 or BSC 40800	Organic Chemistry II or Concepts in Biology or Intro to Cellular and Molecular Biology or Genetics	4	CHEM 2220, 2229 or BIO SCI 1113, 1219 or BIO SCI 1213*, 1219 or BIO SCI 2223	Organic Chemistry II and Lab or General Biology and Lab or Principles of Biology* or General Genetics Applies to degree as Track Elective. *BIO SCI 1213 will be substituted for 1113.	4
BSC 40400	Cell Biology	4	BIO SCI 2213, 2219	Cell Biology and Lab	4
DSCI 11000 or CSC 10011 or CSC 24400 or CSC 36000 or CSC 14400*	Intro to Data Science (3) or Intro to Computer Science: Python (3) or Computer Science II (4) or Data Structures and Algorithms (3) or Computer Science I* (4)	3	CS 1500 or CS 1971,1981*	Computational Problem Solving (3) or Intro to Programming Methodology and Lab* C++ *Will be substituted for CS 1500.	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 23600 or LITERATURE or HIST 11100* or HIST 11200* or ARTH 11000 or MUS 16500 or	American Literature II or Other Non-prerequisite Literature or US History: Colony to New Republic* or US History: New Republic to World Power* or Concepts in the Visual Arts or Intro to Music Literature *Satisfies the State of Missouri government requirement.	6	ENGLISH 1222 or LITERATURE or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	American Literature: 1865 to Present or Other Non-prerequisite Literature or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines to include PHILOS 3223.					
PHRL 21202	Bioethics	3	PHILOS 3223	Bioethics	3
GEO 10100 or GEO 11500 or PS 15500* or PSY 10000 or ECON 23020 or ECON 23030 or Foreign Language	World Regional Geography or Physical Geography or American Government: The Nation* or Principles of Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3	HISTORY 2110 or HISTORY 2110 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	World Regional Geography or World Regional Geography or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3
Humanities, Arts, and Social Sciences ENGLISH 3560 required.					
ENGL 31200	Technical Writing	3	ENGLISH 3560	Technical Writing	3
No free electives applied to the degree.		0	Maximum Free Electives		0
Group 2 Major Requirements		41	Group 2 Major Requirements		41
Group 1 Core Requirements		29	Group 1 Core Requirements		26
Total Hours		70	Total Hours*		67
*S&T advisor permission is required to transfer more than 69 credit hours toward the degree.					

Biomedical Engineering-Biomaterials Group 2 Major Requirements

Lindenwood University			Semester	Missouri S&T		
COM 11000	Fundamentals of Oral Communication	3	SP&MS 1185	Principles of Speech	3	
CHM 23100, 24100	General Chemistry II and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5	
CHM 23200, 24200	General Chemistry III and Lab	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2)	3	
CHM 36100	Organic Chemistry I	4	CHEM 2210, 2219*	Organic Chemistry I and Lab*	4	
CHM 36200	Organic Chemistry II	4	CHEM 2220, 2229*	Organic Chemistry II and Lab*	4	
BSC 10000 or BSC 24400	Concepts in Biology or Intro to Cellular and Molecular Biology	4	BIO SCI 1113, 1219 or BIO SCI 1213*, 1219	General Biology and Lab or Principles of Biology*	4	
BSC 40400	Cell Biology	4	BIO SCI 2213, 2219	Cell Biology and Lab	4	
DSCI 11000 or CSC 10011 or CSC 24400 or CSC 36000 or CSC 14400*	Intro to Data Science (3) or Intro to Computer Science: Python (3) or Computer Science II (4) or Data Structures and Algorithms (3) or Computer Science I* (4)	3	CS 1500 or CS 1971,1981*	Computational Problem Solving (3) or Intro to Programming Methodology and Lab* C++)	3	
EGR 36100	Circuit Theory I	3	ELEC ENG 2100*, 2101	Circuits I* (3) and Circuit Analysis Lab (1)	4	
Humanities, Arts, and Social Sciences General Education Requirements						
From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.						
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts						
Select 6 hours from at least two specific disciplines.						
ENGL 23600 or LITERATURE or HIST 11100* or HIST 11200* or ARTH 11000 or MUS 16500 or	American Literature II or Other Non-prerequisite Literature or US History: Colony to New Republic* or US History: New Republic to World Power* or Concepts in the Visual Arts or Intro to Music Literature	6	ENGLISH 1222 or LITERATURE or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	American Literature: 1865 to Present or Other Non-prerequisite Literature or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation	6	
*Satisfies the State of Missouri government requirement.						
Behavioral and Social Sciences						
Select 6 hours from at least two specific disciplines.						
PHRL 21202	Bioethics	3	PHILOS 3223	Bioethics	3	
GEO 10100 or GEO 11500 or PS 15500* or PSY 10000 or ECON 23020 or ECON 23030 or Foreign Language	World Regional Geography or Physical Geography or American Government: The Nation* or Principles of Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language	3	HISTORY 2110 or HISTORY 2110 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	World Regional Geography or World Regional Geography or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language	3	
*Satisfies the State of Missouri government requirement.						
Humanities, Arts, and Social Sciences						
ENGLISH 3560 required.						
ENGL 31200	Technical Writing	3	ENGLISH 3560	Technical Writing	3	
No free electives applied to the degree.		0	Maximum Free Electives		0	
Group 2 Major Requirements		48	Group 2 Major Requirements		49	
Group 1 Core Requirements		29	Group 1 Core Requirements		26	
Total Hours		77	Total Hours*		75	
*S&T advisor permission is required to transfer more than 69 credits toward the S&T Biomedical Engineering degree.						

Ceramic Engineering Group 2 Major Requirements

Lindenwood University		Semester	Missouri S&T		
ENGL 17000 or ENGL 31200 or COM 11000	Composition II or Technical Writing or Fundamentals of Oral Communication	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHM 23100, 24100	General Chemistry II and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 23200, 24200	General Chemistry III and Lab	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not a degree requirement, transfers as general elective credit.</small>	3
CHM 36100 or CHM 44000	Organic Chemistry I (4) or Inorganic Chemistry (4)	4	CHEM 2210, 2219* or CHEM 3310	Organic Chemistry I (3) and Lab* (1) or Inorganic Chemistry I (3) <small>Satisfies the advanced chemistry elective requirement. *The lab is not a degree requirement, transfers as general elective credit.</small>	3
PHY 30300	Modern Physics	3	PHYSICS 2311*	Modern Physics I* <small>*Will be substituted for PHYSICS 2305.</small>	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 23600 or LITERATURE or HIST 11100* or HIST 11200* or ARTH 11000 or MUS 16500 or	American Literature II or Other Non-prerequisite Literature or US History: Colony to New Republic* or US History: New Republic to World Power* or Concepts in the Visual Arts or Intro to Music Literature <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1222 or LITERATURE or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	American Literature: 1865 to Present or Other Non-prerequisite Literature or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
GEO 10100 or GEO 11500 or PHRL 21000 or PS 15500* or PSY 10000 or ECON 23020 or ECON 23030 or Foreign Language	World Regional Geography or Physical Geography or Practical Logic for Daily Life or American Government: The Nation* or Principles of Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 2110 or HISTORY 2110 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	World Regional Geography or World Regional Geography or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
No free electives applied to the degree.		0	Maximum Free Electives		0
Group 2 Major Requirements		33	Group 2 Major Requirements		32
Group 1 Core Requirements		29	Group 1 Core Requirements		26
Total Hours		62			Total Hours*
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Ceramic Engineering degree.</small>					

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

Lindenwood University			Semester	Missouri S&T	
COM 11000	Fundamentals of Oral Communication	3	SP&MS 1185	Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHM 23100, 24100	General Chemistry II and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 23200, 24200	General Chemistry III and Lab	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis* (2) <small>*CHEM 1510 is not a degree requirement, transfers as general elective credit.</small>	3
CHM 36100	Organic Chemistry I	4	CHEM 2210, 2219*	Organic Chemistry I and Lab* <small>*CHEM 2210 is a degree requirement. CHEM 2219 applies to the degree as 1 of 9 required science elective credits. See note below .</small>	4
CHM 36200 or BSC 40400 or BSC 35300	Organic Chemistry II or Cell Biology or Microbiology	4	CHEM 2220 or BIO SCI 2213, 2219 or BIO SCI 3313, 3319	Organic Chemistry II (3) or Cell Biology and Lab (4) or Microbiology and Lab (5) <small>Applies to the degree as required science elective credits. Select up to 9 hours from these options or CHEM 2219 Organic Chemistry Lab.</small>	8
DSCI 11000 or CSC 10011 or CSC 24400 or CSC 36000 or CSC 14400*	Intro to Data Science (3) or Intro to Computer Science: Python (3) or Computer Science II (4) or Data Structures and Algorithms (3) or Computer Science I* (4)	3	COMP SCI 1500 or COMP SCI 1971,1981* or COMP SCI 1570, 1580* or COMP SCI 1972, 1982	Computational Problem Solving (3) or Intro to Programming Methodology and Lab*(C++) (3) or Intro to Programming and Lab* (C++) (4) or Intro to MATLAB Programming and Lab (3) <small>*Will be substituted for COMP SCI 1500.</small>	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 23600 or LITERATURE or HIST 11100* or HIST 11200* or ARTH 11000 or MUS 16500 or	American Literature II or Other Non-prerequisite Literature or US History: Colony to New Republic* or US History: New Republic to World Power* or Concepts in the Visual Arts or Intro to Music Literature <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1222 or LITERATURE or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	American Literature: 1865 to Present or Other Non-prerequisite Literature or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
GEO 10100 or GEO 11500 or PHRL 21000 or PS 15500* or PSY 10000 or ECON 23020 or ECON 23030 or Foreign Language	World Regional Geography or Physical Geography or Practical Logic for Daily Life or American Government: The Nation* or Principles of Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 2110 or HISTORY 2110 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	World Regional Geography or World Regional Geography or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences ENGLISH 3560 required.					
ENGL 31200	Technical Writing	3	ENGLISH 3560	Technical Writing	3
<i>No free electives applied to the degree.</i>		0	Maximum Free Electives		0
Group 2 Major Requirements		37	Group 2 Major Requirements		41
Group 1 Core Requirements		29	Group 1 Core Requirements		26
Total Hours		66	Total Hours*		67
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Chemical Engineering degree.</small>					

Civil Engineering Group 2 Major Requirements

<u>Lindenwood University</u>		<u>Semester</u>	<u>Missouri S&T</u>			
ENGL 17000 or ENGL 31200 or COM 11000	Composition II or Technical Writing or Fundamentals of Oral Communication	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3	
CHM 23100, 24100	General Chemistry II and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5	
ESC 10000	Physical Geology with Lab	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3	
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.						
ENGL 23600 or LITERATURE or HIST 11100* or HIST 11200* or ARTH 11000 or MUS 16500 or	American Literature II or Other Non-prerequisite Literature or US History: Colony to New Republic* or US History: New Republic to World Power* or Concepts in the Visual Arts or Intro to Music Literature <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1222 or LITERATURE or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	American Literature: 1865 to Present or Other Non-prerequisite Literature or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.						
GEO 10100 or GEO 11500 or PHRL 21000 or PS 15500* or PSY 10000 or ECON 23020 or ECON 23030 or Foreign Language	World Regional Geography or Physical Geography or Practical Logic for Daily Life or American Government: The Nation* or Principles of Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 2110 or HISTORY 2110 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	World Regional Geography or World Regional Geography or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	
Humanities, Arts, and Social Sciences Select 3 hours.						
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	
<i>No free electives applied to the degree.</i>		0	Maximum Free Electives		0	
Group 2 Major Requirements		26	Group 2 Major Requirements		26	
Group 1 Core Requirements		29	Group 1 Core Requirements		26	
Total Hours		55			Total Hours*	52
<small>*S&T advisor permission is required to transfer more than 69 credits toward the S&T Civil Engineering degree.</small>						

Computer Engineering Group 2 Major Requirements

Lindenwood University			Semester	Missouri S&T	
COM 11000	Fundamentals of Oral Communication	3	SPMS 1185	Principles of Speech Applies to degree as Gen Ed Communication requirement.	3
CHM 23100, 24100	General Chemistry II and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
DSCI 11000 or CSC 10011 or CSC 24400 or CSC 36000 or CSC 14400*	Intro to Data Science (3) or Intro to Computer Science: Python (3) or Computer Science II (4) or Data Structures and Algorithms (3) or Computer Science I* (4)	3	COMP SCI 1500 or COMP SCI 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* *Will be substituted for COMP SCI 1500.	3
EGR 33500 or PHY 30300 or CHM 36100 or BSC 40400 or BSC 40800	Engineering Mechanics -Statics and Dynamics (3) or Modern Physics (3) or Organic Chemistry I (4) or Cell Biology n or Genetics (4)	3	MECH ENG 2340 or PHYSICS 2311 or CHEM 2210, 2219* or BIO SCI 2213 or BIO SCI 2223	Statics and Dynamics (3) or Modern Physics I (3) Organic Chemistry I (3) and Lab* (1) or Cell Biology (3) or General Genetics (3) Satisfies a required engineering/science elective. CHEM 2219 is not an S&T degree requirement, will transfer as general elective credit.	3
EGR 36100	Circuit Theory I	3	ELEC ENG 2100*, 2101	Circuits I* (3) and Circuit Analysis Lab (1) *A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for ELEC ENG 2100.	4
MTH 31500	Linear Algebra I	3	MATH 3108	Linear Algebra Satisfies a required math elective.	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 23600 or LITERATURE or HIST 11100* or HIST 11200* or ARTH 11000 or MUS 16500 or	American Literature II or Other Non-prerequisite Literature or US History: Colony to New Republic* or US History: New Republic to World Power* or Concepts in the Visual Arts or Intro to Music Literature *Satisfies the State of Missouri government requirement.	6	ENGLISH 1222 or LITERATURE or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	American Literature: 1865 to Present or Other Non-prerequisite Literature or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
GEO 10100 or GEO 11500 or PHRL 21000 or PS 15500* or PSY 10000 or ECON 23020 or ECON 23030 or Foreign Language	World Regional Geography or Physical Geography or Practical Logic for Daily Life or American Government: The Nation* or Principles of Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	HISTORY 2110 or HISTORY 2110 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	World Regional Geography or World Regional Geography or Logic and Reasoning: An Introduction or American Government*or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
Humanities, Arts, and Social Sciences Select 3 hours.					
ENGL 17000 or ENGL 31200	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
Electives	Maximum Free Electives	3	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	37		Group 2 Major Requirements	39
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	66		Total Hours*	65
*S&T advisor permission is required to transfer more than 68 credits toward the S&T Computer Engineering degree.					

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

Electrical Engineering Group 2 Major Requirements

Lindenwood University			Semester	Missouri S&T	
COM 11000	Fundamentals of Oral Communication	3	SPMS 1185	Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHM 23100, 24100	General Chemistry II and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
DSCI 11000 or CSC 10011 or CSC 24400 or CSC 36000 or CSC 14400*	Intro to Data Science (3) or Intro to Computer Science: Python (3) or Computer Science II (4) or Data Structures and Algorithms (3) or Computer Science I* (4)	3	CS 1500 or CS 1971,1981*	Computational Problem Solving (3) or Intro to Programming Methodology and Lab* C++) <small>*Will be substituted for CS 1500.</small>	3
EGR 33500 or PHY 30300 or CHM 36100 or BSC 40400 or BSC 40800	Engineering Mechanics -Statics and Dynamics (3) or Modern Physics (3) or Organic Chemistry I (4) or Cell Biology n or Genetics (4)	3	MECH ENG 2340 or PHYSICS 2311 or CHEM 2210, 2219* or BIO SCI 2213 or BIO SCI 2223	Statics and Dynamics (3) or Modern Physics I (3) Organic Chemistry I (3) and Lab* (1) or Cell Biology (3) or General Genetics (3) <small>Satisfies a required engineering/science elective. CHEM 2219 is not an S&T degree requirement, will transfer as general elective credit.</small>	3
EGR 36100	Circuit Theory I	3	ELEC ENG 2100*, 2101	Circuits I* (3) and Circuit Analysis Lab (1) <small>*A passing grade on the Missouri S&T EE Advancement Exam I is required to receive credit for ELEC ENG 2100.</small>	4
MTH 31500	Linear Algebra I	3	MATH 3108	Linear Algebra	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 23600 or LITERATURE or HIST 11100* or HIST 11200* or ARTH 11000 or MUS 16500 or	American Literature II or Other Non-prerequisite Literature or US History: Colony to New Republic* or US History: New Republic to World Power* or Concepts in the Visual Arts or Intro to Music Literature <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1222 or LITERATURE or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	American Literature: 1865 to Present or Other Non-prerequisite Literature or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
GEO 10100 or GEO 11500 or PHRL 21000 or PS 15500* or PSY 10000 or ECON 23020 or ECON 23030 or Foreign Language	World Regional Geography or Physical Geography or Practical Logic for Daily Life or American Government: The Nation* or Principles of Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 2110 or HISTORY 2110 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	World Regional Geography or World Regional Geography or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences Select 3 hours.					
ENGL 17000 or ENGL 31200	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
Electives	Maximum Free Electives	6	Electives	Maximum Free Electives	6
	Group 2 Major Requirements	40		Group 2 Major Requirements	42
	Group 1 Core Requirements	29		Group 1 Core Requirements	26
	Total Hours	69		Total Hours*	68
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Electrical Engineering degree.</small>					

Engineering Management Group 2 Major Requirements

Lindenwood University			Semester	Missouri S&T		
COM 11000	Fundamentals of Oral Communication	3	SPMS 1185	Principles of Speech Applies to degree as Gen.Ed Communication requirement.	3	
CHM 23100, 24100	General Chemistry II and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5	
CSC 14400	Computer Science I	4	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3	
EGR 36100	Circuit Theory I	3	ELEC ENG 2800	Electrical Circuits	3	
Humanities, Arts, and Social Sciences General Education Requirements						
From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.						
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts						
Select 6 hours from at least two specific disciplines.						
ENGL 23600 or LITERATURE or HIST 11100* or HIST 11200* or ARTH 11000 or MUS 16500 or	American Literature II or Other Non-prerequisite Literature or US History: Colony to New Republic* or US History: New Republic to World Power* or Concepts in the Visual Arts or Intro to Music Literature *Satisfies the State of Missouri government requirement.	6	ENGLISH 1222 or LITERATURE or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	American Literature: 1865 to Present or Other Non-prerequisite Literature or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6	
Behavioral and Social Sciences						
Select 6 hours from at least two specific disciplines to include PSYCH 1101.						
PSY 10000	Principles of Psychology	3	PSYCH 1101	General Psychology Required	3	
GEO 10100 or GEO 11500 or PHRL 21000 or PS 15500* or ECON 23020 or ECON 23030 or Foreign Language	World Regional Geography or Physical Geography or Practical Logic for Daily Life or American Government: The Nation* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3	HISTORY 2110 or HISTORY 2110 or PHILOS 1115 or POL SCI 1200* or ECON 1100 or ECON 1200 or Foreign Language	World Regional Geography or World Regional Geography or Logic and Reasoning: An Introduction or American Government* or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	3	
Humanities, Arts, and Social Sciences						
Select 3 hours.						
ENGL 17000 or ENGL 31200	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3	
No free electives applied to the degree.		0	Electives	Maximum Free Electives	0	
Group 2 Major Requirements		29	Group 2 Major Requirements		29	
Group 1 Core Requirements		29	Group 1 Core Requirements		26	
Total Hours		58			Total Hours*	61
*S&T advisor permission is required to transfer more than 61 credits toward the S&T Engineering Management degree.						

*S&T advisor permission is required to transfer more than 61 credits toward the S&T Engineering Management degree.

Environmental Engineering Group 2 Major Requirements

<u>Lindenwood University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 17000 or ENGL 31200 or COM 11000	Composition II or Technical Writing or Fundamentals of Oral Communication	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
ESC 10000	Physical Geology with Lab	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
CHM 23100, 24100	General Chemistry II and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 23200, 24200	General Chemistry III and Lab	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not a degree requirement, transfers as general elective credit.</small>	3
BSC 10000 or BSC 24400	Concepts in Biology or Intro to Cellular and Molecular Biology	4	BIO SCI 1113, 1219* or BIO SCI 1213*, 1219*	General Biology and Lab* or Principles of Biology* and Lab* <small>*BIO SCI 1213 will be substituted for 1113. BIO SCI 1219 is not a degree requirement, transfers as general elective credit.</small>	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 9 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 3 hours Behavioral and Social Sciences. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 23600 or LITERATURE or HIST 11100* or HIST 11200* or ARTH 11000 or MUS 16500 or	American Literature II or Other Non-prerequisite Literature or US History: Colony to New Republic* or US History: New Republic to World Power* or Concepts in the Visual Arts or Intro to Music Literature <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1222 or LITERATURE or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	American Literature: 1865 to Present or Other Non-prerequisite Literature or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 3 hours.					
PHRL 21000 or PS 15500* or PSY 10000 or ECON 23020 or ECON 23030 or Foreign Language	Practical Logic for Daily Life or American Government: The Nation* or Principles of Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3
No free electives applied to the degree.		0	Maximum Free Electives		0
Group 2 Major Requirements		28	Group 2 Major Requirements		26
Group 1 Core Requirements		29	Group 1 Core Requirements		26
Total Hours		57	Total Hours*		52
<small>*S&T advisor permission is required to transfer more than 69 credits toward the S&T Environmental Engineering degree.</small>					

Geological Engineering Group 2 Major Requirements

<u>Lindenwood University</u>			<u>Semester</u>	<u>Missouri S&T</u>			
ENGL 31200	Technical Writing	3		ENGLISH 3560	Technical Writing Applies to degree as Gen Ed Communication requirement.	3	
CHM 23100, 24100	General Chemistry II and Lab	4		CHEM 1310, 1319	General Chemistry I and Lab	5	
DSCI 11000 or CSC 10011 or CSC 24400 or CSC 36000 or CSC 14400*	Intro to Data Science (3) or Intro to Computer Science: Python (3) or Computer Science II (4) or Data Structures and Algorithms (3) or Computer Science I* (4)	3		CS 1500 or CS 1971, 1981	Computational Problem Solving or Intro to Programming Methodology and Lab	3	
ESC 10000	Physical Geology with Lab	4		GEO ENG 1150 (GEOLOGY 1110)	Physical and Environmental Geology	3	
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.							
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.							
ENGL 23600 or LITERATURE or HIST 11100* or HIST 11200* or ARTH 11000 or MUS 16500 or	American Literature II or Other Non-prerequisite Literature or US History: Colony to New Republic* or US History: New Republic to World Power* or Concepts in the Visual Arts or Intro to Music Literature <i>*Satisfies the State of Missouri government requirement.</i>	6		ENGLISH 1222 or LITERATURE or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	American Literature: 1865 to Present or Other Non-prerequisite Literature or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <i>*Satisfies the State of Missouri government requirement.</i>	6	
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.							
GEO 10100 or GEO 11500 or PHRL 21000 or PS 15500* or PSY 10000 or ECON 23020 or ECON 23030 or Foreign Language	World Regional Geography or Physical Geography or Practical Logic for Daily Life or American Government: The Nation* or Principles of Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <i>*Satisfies the State of Missouri government requirement.</i>	6		HISTORY 2110 or HISTORY 2110 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	World Regional Geography or World Regional Geography or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <i>*Satisfies the State of Missouri government requirement.</i>	6	
Humanities, Arts, and Social Sciences Select 3 hours.							
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3		HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	
<i>No free electives applied to the degree.</i>		0		Maximum Free Electives		0	
Group 2 Major Requirements		29		Group 2 Major Requirements		29	
Group 1 Core Requirements		29		Group 1 Core Requirements		26	
Total Hours		58				Total Hours*	55
<small>*S&T advisor permission is required to transfer more than 65 credits toward the S&T Geological Engineering degree.</small>							

Mechanical Engineering Group 2 Major Requirements

<u>Lindenwood University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 17000 or ENGL 31200 or COM 11000	Composition II or Technical Writing or Fundamentals of Oral Communication	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHM 23100, 24100	General Chemistry II and Lab	4	CHEM 1310*, 1319	General Chemistry I and Lab <small>*CHEM 1310 will be substituted for CHEM 1305.</small>	5
CSC 14400	Computer Science I	4	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
EGR 36100	Circuit Theory I	3	EE 2800	Electrical Circuits	3
MTH 31500	Linear Algebra I	3	MATH 3108	Linear Algebra I <small>Will satisfy the Advanced Math/Statistics elective requirement.</small>	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 23600 or LITERATURE or HIST 11100* or HIST 11200* or ARTH 11000 or MUS 16500 or	American Literature II or Other Non-prerequisite Literature or US History: Colony to New Republic* or US History: New Republic to World Power* or Concepts in the Visual Arts or Intro to Music Literature <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1222 or LITERATURE or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	American Literature: 1865 to Present or Other Non-prerequisite Literature or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
GEO 10100 or GEO 11500 or PHRL 21000 or PS 15500* or PSY 10000 or ECON 23020 or ECON 23030 or Foreign Language	World Regional Geography or Physical Geography or Practical Logic for Daily Life or American Government: The Nation* or Principles of Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 2110 or HISTORY 2110 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	World Regional Geography or World Regional Geography or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
<i>No free electives applied to the degree.</i>		0	Maximum Free Electives		0
Group 2 Major Requirements		32	Group 2 Major Requirements		32
Group 1 Core Requirements		29	Group 1 Core Requirements		26
Total Hours		61	Total Hours*		58
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Mechanical Engineering degree.</small>					

Metallurgical Engineering Group 2 Major Requirements

<u>Lindenwood University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 17000 or ENGL 31200 or COM 11000	Composition II or Technical Writing or Fundamentals of Oral Communication	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHM 23100, 24100	General Chemistry II and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
CHM 23200, 24200	General Chemistry III and Lab	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not a degree requirement, transfers as general elective credit.</small>	3
CHM 36100 or PHY 30300 or EGR 36100	Organic Chemistry I (4) or Modern Physics (3) or Circuit Theory I (3)	3	CHEM 2210 or PHYSICS 2311 or EE 2800	Organic Chemistry I (4) or Modern Physics I (3) or Electrical Circuits (3) <small>Not specifically required for the degree but will satisfy Out-of-Department Technical Elective Requirement.</small>	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 23600 or LITERATURE or HIST 11100* or HIST 11200* or ARTH 11000 or MUS 16500 or	American Literature II or Other Non-prerequisite Literature or US History: Colony to New Republic* or US History: New Republic to World Power* or Concepts in the Visual Arts or Intro to Music Literature <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1222 or LITERATURE or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	American Literature: 1865 to Present or Other Non-prerequisite Literature or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
GEO 10100 or GEO 11500 or PHRL 21000 or PS 15500* or PSY 10000 or ECON 23020 or ECON 23030 or Foreign Language	World Regional Geography or Physical Geography or Practical Logic for Daily Life or American Government: The Nation* or Principles of Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 2110 or HISTORY 2110 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	World Regional Geography or World Regional Geography or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
Maximum Free Electives		3	Maximum Free Electives		3
Group 2 Major Requirements		32	Group 2 Major Requirements		32
Group 1 Core Requirements		29	Group 1 Core Requirements		26
Total Hours		61	Total Hours*		58
<small>*S&T advisor permission is required to transfer more than 68 credits toward the S&T Metallurgical Engineering degree.</small>					

*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>Lindenwood University</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 17000 or ENGL 31200 or COM 11000	Composition II or Technical Writing or Fundamentals of Oral Communication	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHM 23100, 24100	General Chemistry II and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
ESC 10000	Physical Geology with Lab	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
Humanities, Arts, and Social Sciences General Education Requirements					
From the options listed in each group below, select 12 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.					
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts					
Select 6 hours from at least two specific disciplines.					
ENGL 23600 or LITERATURE or HIST 11100* or HIST 11200* or ARTH 11000 or MUS 16500 or	American Literature II or Other Non-prerequisite Literature or US History: Colony to New Republic* or US History: New Republic to World Power* or Concepts in the Visual Arts or Intro to Music Literature *Satisfies the State of Missouri government requirement.	6	ENGLISH 1222 or LITERATURE or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	American Literature: 1865 to Present or Other Non-prerequisite Literature or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation *Satisfies the State of Missouri government requirement.	6
Behavioral and Social Sciences					
Select 6 hours from at least two specific disciplines.					
GEO 10100 or GEO 11500 or PHRL 21000 or PS 15500* or PSY 10000 or ECON 23020 or ECON 23030 or Foreign Language	World Regional Geography or Physical Geography or Practical Logic for Daily Life or American Government: The Nation* or Principles of Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6	HISTORY 2110 or HISTORY 2110 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	World Regional Geography or World Regional Geography or Logic and Reasoning: An Introduction or American Government* or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language *Satisfies the State of Missouri government requirement.	6
No free electives applied to the degree.		0	Maximum Free Electives		0
Group 2 Major Requirements		23	Group 2 Major Requirements		23
Group 1 Core Requirements		29	Group 1 Core Requirements		26
Total Hours		52	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>Lindenwood University</u>			<u>Semester</u>	<u>Missouri S&T</u>		
ENGL 17000 or ENGL 31200 or COM 11000	Composition II or Technical Writing or Fundamentals of Oral Communication	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3	
CHM 23100, 24100	General Chemistry II and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5	
CSC 14400	Computer Science I	4	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3	
MTH 31500	Linear Algebra I	3	MATH 3108	Linear Algebra I	3	
EGR 36100	Circuit Theory I	3	ELEC ENG 2800	Electrical Circuits	3	
PHY 30300	Modern Physics	3	PHYSICS 2311	Modern Physics I	3	
Humanities, Arts, and Social Sciences General Education Requirements						
From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines.						
*At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.						
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.						
ENGL 23600 or LITERATURE or HIST 11100* or HIST 11200* or ARTH 11000 or MUS 16500 or	American Literature II or Other Non-prerequisite Literature or US History: Colony to New Republic* or US History: New Republic to World Power* or Concepts in the Visual Arts or Intro to Music Literature <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1222 or LITERATURE or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	American Literature: 1865 to Present or Other Non-prerequisite Literature or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6	
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.						
ECON 23020 or ECON 23030	Principles of Microeconomics or Principles of Macroeconomics	3	ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3	
GEO 10100 or GEO 11500 or PHRL 21000 or PS 15500* or PSY 10000 or Foreign Language	World Regional Geography or Physical Geography or Practical Logic for Daily Life or American Government: The Nation* or Principles of Psychology or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	HISTORY 2110 or HISTORY 2110 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or Foreign Language	World Regional Geography or World Regional Geography or Logic and Reasoning: An Introduction or American Government* or General Psychology or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	3	
Humanities, Arts, and Social Sciences Select 3 hours.						
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	
Maximum Free Electives		0	Maximum Free Electives		0	
Group 2 Major Requirements		35	Group 2 Major Requirements		35	
Group 1 Core Requirements		29	Group 1 Core Requirements		26	
Total Hours		64			Total Hours*	61
<small>*S&T advisor permission is required to transfer more than 69 credits toward the S&T Nuclear Engineering degree.</small>						

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Petroleum Engineering Group 2 Major Requirements

Lindenwood University		Semester	Missouri S&T		
ENGL 17000 or ENGL 31200 or COM 11000	Composition II or Technical Writing or Fundamentals of Oral Communication	3	ENGLISH 1160 or ENGLISH 3560 or SPMS 1185	Writing and Research or Technical Writing or Principles of Speech <small>Applies to degree as Gen Ed Communication requirement.</small>	3
CHM 23100, 24100	General Chemistry II and Lab	4	CHEM 1310, 1319	General Chemistry I and Lab	5
DSCI 11000 or CSC 10011 or CSC 24400 or CSC 36000	Intro to Data Science (3) or Intro to Computer Science: Python (3) or Computer Science II (4) or Data Structures and Algorithms (3)	3	COMP SCI 1500	Computational Problem Solving	3
ESC 10000	Physical Geology with Lab	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
Humanities, Arts, and Social Sciences General Education Requirements From the options listed in each group below, select 15 hours to include 6 hours Humanities and Fine Arts from at least two specific disciplines and 6 hours Behavioral and Social Sciences from at least two specific disciplines. *At least one course must be selected from HISTORY 1200, 1300, 1310, or POL SCI 1200 to satisfy the State of Missouri government requirement.					
Humanities and Fine Arts Select 6 hours from at least two specific disciplines.					
ENGL 23600 or LITERATURE or HIST 11100* or HIST 11200* or ARTH 11000 or MUS 16500 or	American Literature II or Other Non-prerequisite Literature or US History: Colony to New Republic* or US History: New Republic to World Power* or Concepts in the Visual Arts or Intro to Music Literature <small>*Satisfies the State of Missouri government requirement.</small>	6	ENGLISH 1222 or LITERATURE or HISTORY 1300* or HISTORY 1310* or ART 1180 or MUSIC 1150	American Literature: 1865 to Present or Other Non-prerequisite Literature or American History to 1877* or American History Since 1877* or Art Appreciation or Music Understanding and Appreciation <small>*Satisfies the State of Missouri government requirement.</small>	6
Behavioral and Social Sciences Select 6 hours from at least two specific disciplines.					
GEO 10100 or GEO 11500 or PHRL 21000 or PS 15500* or PSY 10000 or ECON 23020 or ECON 23030 or Foreign Language	World Regional Geography or Physical Geography or Practical Logic for Daily Life or American Government: The Nation* or Principles of Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6	HISTORY 2110 or HISTORY 2110 or PHILOS 1115 or POL SCI 1200* or PSYCH 1101 or ECON 1100 or ECON 1200 or Foreign Language	World Regional Geography or World Regional Geography or Logic and Reasoning: An Introduction or American Government*or General Psychology or Principles of Microeconomics or Principles of Macroeconomics or Elementary or Intermediate Foreign Language <small>*Satisfies the State of Missouri government requirement.</small>	6
Humanities, Arts, and Social Sciences Select 3 hours.					
HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3	HASS Elective	Humanities, Arts, Social Sciences Elective: Any history, art, music, theater, English and technical communication, philosophy, political science, psychology, economics, etymology, or foreign language.	3
No free electives applied to the degree.		0	Maximum Free Electives		0
Group 2 Major Requirements		29	Group 2 Major Requirements		29
Group 1 Core Requirements		29	Group 1 Core Requirements		26
Total Hours		58			Total Hours* 55
<small>*S&T advisor permission is required to transfer more than 69 credits toward the S&T Petroleum Engineering degree.</small>					