

Missouri State University-West Plains — 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>Missouri State University-West Plains</u>		<u>Semester</u>	<u>Missouri S&T</u>			
MTH 261	Analytic Geometry and Calculus I	5	MATH 1214	Calculus I <small>Grade of C or better is required.</small>	4	
MTH 280	Analytic Geometry and Calculus II	5	MATH 1215	Calculus II <small>Grade of C or better is required.</small>	4	
MTH 292	Multivariate Calculus	3	MATH 2222	Calculus III <small>Grade of C or better is required.</small>	4	
PHY 203	Foundations of Physics I	5	PHYSICS 1135	Engineering Physics I <small>Grade of C or better is required.</small>	4	
PHY 204	Foundations of Physics II	5	PHYSICS 2135	Engineering Physics II <small>Grade of C or better is required.</small>	4	
CHM 160, 161	General Chemistry I and Lab	5	CHEM 1310, 1319	General Chemistry I and Lab	5	
EGR 100	Careers in Engineering and Technology	3	FR ENG 1100	Study and Careers in Engineering and Computing	1	
ENG 110	Writing I	3	ENGLISH 1120	Exposition and Argumentation	3	
ECO 165 or ECO 155	Principles of Microeconomics or Principles of Macroeconomics	3	ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics	3	
Total Hours			37	Total Hours		32

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/Biomufacturing 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 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>Missouri State University-West Plains</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EGR 110	Introduction to Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
HST 104 or HST 121 or HST 122 or PLS 101	World History since 1600 C.E. or Survey of US History to 1877 or Survey of History since 1877 or American Democracy and Citizenship	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 210 or COM 115 or ENG 221	Writing II: Academic Writing or Fundamentals of Public Speaking or Writing II: Writing for the Professions	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
CSC 125	Intro to C++ Programming	4	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
	Literature Elective	3		Literature Elective	3
Ethics	Ethics Elective <small>Engineering, business, bio, social or other ethics approved by advisor.</small>	3	Ethics	Ethics Elective <small>Engineering, business, bio, social or other ethics approved by advisor.</small>	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	19		Group 2 Major Requirements	18
	Group 1 Core Requirements	37		Group 1 Core Requirements	32
	Total Hours	56		Total Hours*	50

*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>Missouri State University-West Plains</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EGR 110	Introduction to Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
HST 104* (or HST 121 or HST 122)	World History since 1600 C.E. * (or Survey of US History to 1877 or Survey of History since 1877)	3	HISTORY 1200* (or HISTORY 1300 or HISTORY 1310)	Modern Western Civilization* (or American History to 1877 or American History since 1877)	3
HSS Elective	Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language	3	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
Humanities or Social Science or Communication	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language or one communication course from this list: ENG 210, 221, or COM 115	3	Humanities or Social Science or Communication	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language or one communication course from this list: ENGLISH 1160, 1600, 3560 or SPMS 1185.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	12		Group 2 Major Requirements	12
	Group 1 Core Requirements	37		Group 1 Core Requirements	32
	Total Hours	49		Total Hours*	44

*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>Missouri State University-West Plains</u>		<u>Semester</u>	<u>Missouri S&T</u>		
COM 115	Fundamentals of Public Speaking	3	SP&MS 1185	Principles of Speech	3
ENG 221	Writing II: Writing for the Professions	3	ENGLISH 3560	Technical Writing	3
HST 104 or HST 121 or HST 122 or PLS 101	World History since 1600 C.E. or Survey of US History to 1877 or Survey of History since 1877 or American Democracy and Citizenship	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 170, 171	General Chemistry II and Lab	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&T degree requirement. Will transfer as general credit.</small>	3
BIO 102 or BIO 121 or BIO 235	Biological Science or General Biology I or Principles of Genetics	4	BIO SCI 1113, 1219 or BIO SCI 2223	General Biology and Lab or General Genetics <small>Applies to degree as Track Elective.</small>	4
CSC 125* or CSC 131 or CSC 232	Intro to C++ Programming* or Computational Thinking or Data Structures	4	CS 1500 or CS 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* (C++) <small>*Course will be substituted for CS 1500.</small>	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	24		Group 2 Major Requirements	22
	Group 1 Core Requirements	37		Group 1 Core Requirements	32
	Total Hours	61		Total Hours*	54

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

Biomedical Engineering-Biomaterials Group 2 Major Requirements

<u>Missouri State University-West Plains</u>		<u>Semester</u>	<u>Missouri S&T</u>		
COM 115	Fundamentals of Public Speaking	3	SP&MS 1185	Principles of Speech	3
ENG 221	Writing II: Writing for the Professions	3	ENGLISH 3560	Technical Writing	3
HST 104 or HST 121 or HST 122 or PLS 101	World History since 1600 C.E. or Survey of US History to 1877 or Survey of History since 1877 or American Democracy and Citizenship	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 170, 171	General Chemistry II and Lab	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&T degree requirement. Will transfer as general credit.</small>	3
BIO 102 or BIO 121	Biological Science or General Biology I	4	BIO SCI 1113*, 1219*	General General Biology* and Lab* <small>*Applies to degree as Track Elective (Non-engineering).</small>	4
CSC 125* or CSC 131 or CSC 232	Intro to C++ Programming* or Computational Thinking or Data Structures	4	CS 1500 or CS 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* (C++) <small>*Course will be substituted for CS 1500.</small>	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	21		Group 2 Major Requirements	19
	Group 1 Core Requirements	37		Group 1 Core Requirements	32
	Total Hours	58		Total Hours*	51

*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>Missouri State University-West Plains</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EGR 110	Introduction to Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
HST 104 or HST 121 or HST 122 or PLS 101	World History since 1600 C.E. or Survey of US History to 1877 or Survey of History since 1877 or American Democracy and Citizenship	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 170, 171	General Chemistry II and Lab	4	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&T degree requirement. Will transfer as general credit.</small>	3
ENG 210 or COM 115 or HSS Elective	Writing II: Academic Writing or Fundamentals of Public Speaking 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	19		Group 2 Major Requirements	18
	Group 1 Core Requirements	37		Group 1 Core Requirements	32
	Total Hours	56		Total Hours*	50

*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>Missouri State University-West Plains</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EGR 110	Introduction to Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
COM 115	Fundamentals of Public Speaking	3	SP&MS 1185	Principles of Speech	3
ENG 221	Writing II: Writing for the Professions	3	ENGLISH 3560	Technical Writing	3
HST 104 or HST 121 or HST 122 or PLS 101	World History since 1600 C.E. or Survey of US History to 1877 or Survey of History since 1877 or American Democracy and Citizenship	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 170	General Chemistry II	3	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&T degree requirement. Will transfer as general credit.</small>	3
CSC 125* or CSC 131 or CSC 232	Intro to C++ Programming* or Computational Thinking or Data Structures	4	CS 1500 or CS 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* (C++) <small>*Course will be substituted for CS 1500.</small>	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	22		Group 2 Major Requirements	21
	Group 1 Core Requirements	37		Group 1 Core Requirements	32
	Total Hours	59		Total Hours*	53

*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>Missouri State University-West Plains</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EGR 110	Introduction to Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 210 or COM 115 or ENG 221	Writing II: Academic Writing or Fundamentals of Public Speaking or Writing II: Writing for the Professions	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
HST 104 or HST 121 or HST 122 or PLS 101	World History since 1600 C.E. or Survey of US History to 1877 or Survey of History since 1877 or American Democracy and Citizenship	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
GLG 110	Principles of Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	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	16		Group 2 Major Requirements	15
	Group 1 Core Requirements	37		Group 1 Core Requirements	32
	Total Hours	53		Total Hours*	47

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

Computer Engineering Group 2 Major Requirements

<u>Missouri State University-West Plains</u>		<u>Semester</u>	<u>Missouri S&T</u>		
COM 115	Fundamentals of Public Speaking	3	SPMS 1185	Principles of Speech	3
ENG 210 or ENG 221	Writing II: Academic Writing or Writing II: Writing for the Professions	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HST 104 or HST 121 or HST 122 or PLS 101	World History since 1600 C.E. or Survey of US History to 1877 or Survey of History since 1877 or American Democracy and Citizenship	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
CSC 125 or CSC 131 or CSC 232	Intro to C++ Programming or Computational Thinking or Data Structures	4	CS 1500	Computational Problem Solving	3
BIO 235	Principles of Genetics	3	BIO SCI 2223	General Genetics (3) <small>Satisfies a required engineering/science elective.</small>	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Electives	Maximum Free Electives	3	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	22		Group 2 Major Requirements	21
	Group 1 Core Requirements	37		Group 1 Core Requirements	32
	Total Hours	59		Total Hours*	53

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

Electrical Engineering Group 2 Major Requirements

<u>Missouri State University-West Plains</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EGR 110	Introduction to Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
COM 115	Fundamentals of Public Speaking	3	SPMS 1185	Principles of Speech	3
ENG 210 or ENG 221	Writing II: Academic Writing or Writing II: Writing for the Professions	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HST 104 or HST 121 or HST 122 or PLS 101	World History since 1600 C.E. or Survey of US History to 1877 or Survey of History since 1877 or American Democracy and Citizenship	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
CSC 125 or CSC 131 or CSC 232	Intro to C++ Programming or Computational Thinking or Data Structures	4	CS 1500	Computational Problem Solving	3
BIO 235	Principles of Genetics	3	BIO SCI 2223	General Genetics (3) <small>Satisfies a required engineering/science elective.</small>	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Electives	Maximum Free Electives	3	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	25		Group 2 Major Requirements	24
	Group 1 Core Requirements	37		Group 1 Core Requirements	32
	Total Hours	62		Total Hours*	56

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

Engineering Management Group 2 Major Requirements

<u>Missouri State University-West Plains</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EGR 110	Introduction to Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
PSY 121	Introductory Psychology	3	PSYCH 1101	General Psychology	3
HST 104 or HST 121 or HST 122 or PLS 101	World History since 1600 C.E. or Survey of US History to 1877 or Survey of History since 1877 or American Democracy and Citizenship	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
COM 115	Fundamentals of Public Speaking	3	SPMS 1185	Principles of Speech	3
ENG 210 or ENG 221	Writing II: Academic Writing or Writing II: Writing for the Professions	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
CSC 125	Intro to C++ Programming	4	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	3	Electives	Maximum Free Electives	0
	Group 2 Major Requirements	25		Group 2 Major Requirements	21
	Group 1 Core Requirements	37		Group 1 Core Requirements	32
	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

<u>Missouri State University-West Plains</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EGR 110	Introduction to Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 210 or COM 115 or ENG 221	Writing II: Academic Writing or Fundamentals of Public Speaking or Writing II: Writing for the Professions	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
HST 104 or HST 121 or HST 122	World History since 1600 C.E. or Survey of US History to 1877 or Survey of History since 1877	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310	Modern Western Civilization or American History to 1877 or American History since 1877	3
GLG 110	Principles of Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
CHM 170	General Chemistry II	3	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&T degree requirement. Will transfer as general credit.</small>	3
BIO 102 or BIO 121	Biological Science or General Biology I	4	BIO SCI 1113, 1219*	General Biology (3) and Lab* (1) <small>*BIO SCI 1219 is not an S&T degree requirement, will transfer as general electrical credit.</small>	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	23		Group 2 Major Requirements	21
	Group 1 Core Requirements	37		Group 1 Core Requirements	32
	Total Hours	60		Total Hours*	53

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

Geological Engineering Group 2 Major Requirements

<u>Missouri State University-West Plains</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EGR 110	Introduction to Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 221	Writing II: Writing for the Professions	3	ENGLISH 3560	Technical Writing	3
HST 104 or HST 121 or HST 122 or	World History since 1600 C.E. or Survey of US History to 1877 or Survey of History since 1877 or	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
PLS 101	American Democracy and Citizenship				
CSC 125* or CSC 131 or CSC 232	Intro to C++ Programming* or Computational Thinking or Data Structures	4	CS 1500 or CS 1971, 1981	Computational Problem Solving or Intro to Programming Methodology and Lab	3
GLG 110	Principles of Geology	4	GEO ENG 1150 (GEOLOGY 1110)	Physical and Environmental Geology	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	23		Group 2 Major Requirements	21
	Group 1 Core Requirements	37		Group 1 Core Requirements	32
	Total Hours	60		Total Hours*	53

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

Mechanical Engineering Group 2 Major Requirements

<u>Missouri State University-West Plains</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EGR 110	Introduction to Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
HST 104 or HST 121 or HST 122 or	World History since 1600 C.E. or Survey of US History to 1877 or Survey of History since 1877 or	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
PLS 101	American Democracy and Citizenship				
ENG 210 or COM 115 or ENG 221	Writing II: Academic Writing or Fundamentals of Public Speaking or Writing II: Writing for the Professions	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
EGR 120	Intro to Computer Aided Design	2	MECH ENG 1761	Intro to Computer Aided Design	1
CSC 125	Intro to C++ Programming	4	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
	Literature Elective	3		Literature Elective	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	21		Group 2 Major Requirements	19
	Group 1 Core Requirements	37		Group 1 Core Requirements	32
	Total Hours	58		Total Hours*	51

*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>Missouri State University-West Plains</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EGR 110	Introduction to Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 210 or COM 115 or ENG 221	Writing II: Academic Writing or Fundamentals of Public Speaking or Writing II: Writing for the Professions	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
HST 104 or HST 121 or HST 122 or PLS 101	World History since 1600 C.E. or Survey of US History to 1877 or Survey of History since 1877 or American Democracy and Citizenship	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 170	General Chemistry II	3	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&T degree requirement. Will transfer as general credit.</small>	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Electives	Maximum Free Electives	5	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	23		Group 2 Major Requirements	21
	Group 1 Core Requirements	37		Group 1 Core Requirements	32
	Total Hours	60		Total Hours*	53

*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>Missouri State University-West Plains</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EGR 110	Introduction to Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 210 or ENG 221	Writing II: Academic Writing or Writing II: Writing for the Professions	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HST 104 or HST 121 or HST 122 or PLS 101	World History since 1600 C.E. or Survey of US History to 1877 or Survey of History since 1877 or American Democracy and Citizenship	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
GLG 110	Principles of Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	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	19		Group 2 Major Requirements	18
	Group 1 Core Requirements	37		Group 1 Core Requirements	32
	Total Hours	56		Total Hours*	50

*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>Missouri State University-West Plains</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EGR 110	Introduction to Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 210 or COM 115 or ENG 221	Writing II: Academic Writing or Fundamentals of Public Speaking or Writing II: Writing for the Professions	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
HST 104 or HST 121 or HST 122 or PLS 101	World History since 1600 C.E. or Survey of US History to 1877 or Survey of History since 1877 or American Democracy and Citizenship	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
CSC 125	Intro to C++ Programming	4	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Electives	Maximum Free Electives	6	Electives	Maximum Free Electives	6
	Group 2 Major Requirements	25		Group 2 Major Requirements	24
	Group 1 Core Requirements	37		Group 1 Core Requirements	32
	Total Hours	62		Total Hours*	56

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

Petroleum Engineering Group 2 Major Requirements

<u>Missouri State University-West Plains</u>		<u>Semester</u>	<u>Missouri S&T</u>		
EGR 110	Introduction to Engineering Design	3	MECH ENG 1720	Intro to Engineering Design	3
ENG 210 or ENG 221	Writing II: Academic Writing or Writing II: Writing for the Professions	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing (preferred)	3
HST 104 or HST 121 or HST 122 or PLS 101	World History since 1600 C.E. or Survey of US History to 1877 or Survey of History since 1877 or American Democracy and Citizenship	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
GLG 110	Principles of Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	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	19		Group 2 Major Requirements	18
	Group 1 Core Requirements	37		Group 1 Core Requirements	32
	Total Hours	56		Total Hours*	50

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