

Ozarks Technical Community College — 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>Ozarks Technical Community College</u>		<u>Semester</u>	<u>Missouri S&T</u>	
MTH 140	Analytic Geometry and Calculus I	5	MATH 1214	Calculus I Grade of C or better is required.
MTH 141	Analytic Geometry and Calculus II	5	MATH 1215	Calculus II Grade of C or better is required.
MTH 240	Analytic Geometry and Calculus III	3	MATH 2222	Calculus III Grade of C or better is required.
MTH 241	Differential Equations	3	MATH 3304	Elementary Differential Equations
PHY 220	Physics for Engineers and Scientists I	5	PHYSICS 1135	Engineering Physics I Grade of C or better is required.
PHY 222	Physics for Engineers and Scientists II	5	PHYSICS 2135	Engineering Physics II Grade of C or better is required.
CHM 160, 161	General Chemistry I	5	CHEM 1310, 1319	General Chemistry I and Lab
EGR 100	Study and Careers in Engineering	1	FR ENG 1100	Study and Careers in Engineering and Computing
ENG 101	Composition I	3	ENGLISH 1120	Exposition and Argumentation
ECO 275 or ECO 270	Principles of Microeconomics or Principles of Macroeconomics	3	ECON 1100 or ECON 1200	Principles of Microeconomics or Principles of Macroeconomics
Total Hours		38	Total Hours	
			35	

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
Ceramic Engineering
Chemical Engineering
Chemical Engineering/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>Ozarks Technical Community College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
DDT 200	Production Design Drafting	4	MECH ENG 1720	Intro to Engineering Design	3
HST 106 or HST 120 or HST 130 or PLS 101	Modern World History or US History I: to 1865 or US History II: 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
ENG 102 or COM 105 or ENG 150	Composition II or Public Speaking or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
CSC 140	C++ Programming I	3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
EGR 201	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
MTH 230	Linear Algebra	3	MATH 3108	Linear Algebra I <small>Will satisfy the Advanced Math/Comp Sci elective requirement.</small>	3
ENG 240 or ENG 270 or ENG 260	Survey of English Literature I or Survey of American Literature I or Survey of World Literature I <small>or other literature</small>	3	ENGLISH 1211 or ENGLISH 1221 or ENGLISH 1231	British Literature I: The Beginnings to 1800 or American Literature: 1600 to 1865 or World Literature <small>or other literature</small>	3
PHL 105	Intro to Ethics <small>or other engineering, business, bio, social ethics approved by advisor</small>	3	PHILOS 1130	How Should I Live? An Introduction to Ethics <small>or other engineering, business, bio, social ethics approved by advisor</small>	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	25		Group 2 Major Requirements	24
	Group 1 Core Requirements	38		Group 1 Core Requirements	35
	Total Hours	63		Total Hours*	59

*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>Ozarks Technical Community College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
DDT 200	Production Design Drafting	4	MECH ENG 1720	Intro to Engineering Design	3
HST 106 (or HST 120 or HST 130)	Modern World History* (or US History I: to 1865 or US History II: 1865-Present) <small>*HST 1200 is preferred; 120 or 130 will also be accepted.</small>	3	HISTORY 1200* (or HISTORY 1300 or HISTORY 1310)	Modern Western Civilization* (or American History to 1877 or American History since 1877) <small>*HISTORY 1200 is preferred; 1300 or 1310 will also be accepted.</small>	3
EGR 201	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 205	Engineering Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
PHY 110	Intro to Geology	4	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 102, 150 or COM 105.	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	20		Group 2 Major Requirements	17
	Group 1 Core Requirements	38		Group 1 Core Requirements	35
	Total Hours	58		Total Hours*	52

*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>Ozarks Technical Community College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
COM 105	Public Speaking	3	SP&MS 1185	Principles of Speech	3
ENG 150	Technical Writing	3	ENGLISH 3560	Technical Writing	3
HST 106 or HST 120 or HST 130 or PLS 101	Modern World History or US History I: to 1865 or US History II: 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
CHM 170, 171	General Chemistry I and Lab	5	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
CHM 242	Organic Chemistry I	6	CHEM 2210, 2219	Organic Chemistry I and Lab	4
CHM 243 or BIO 101 or BIO 160 or BIO 250	Organic Chemistry II (6) or Life Science (4) or General Biology I (4) or Genetics (4)	4	CHEM 2220, 2229 or BIO SCI 1113, 1219 or BIO SCI 2223	Organic Chemistry II and Lab or General Biology and Lab or General Genetics <small>Applies to degree as Track Elective.</small>	4
CSC 160 or CSC 210 or CSC 140*	Python Programming I (3) or Data Structures (4) or C++ Programming I (4)	3	CS 1500 or CS 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* (C++) <small>*Will be substituted for CS 1500.</small>	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	30		Group 2 Major Requirements	26
	Group 1 Core Requirements	38		Group 1 Core Requirements	35
	Total Hours	68		Total Hours*	61

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

Biomedical Engineering-Biomaterials Group 2 Major Requirements

<u>Ozarks Technical Community College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
COM 105	Public Speaking	3	SP&MS 1185	Principles of Speech	3
ENG 150	Technical Writing	3	ENGLISH 3560	Technical Writing	3
HST 106 or HST 120 or HST 130 or PLS 101	Modern World History or US History I: to 1865 or US History II: 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
CHM 170, 171	General Chemistry I and Lab	5	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
CHM 242	Organic Chemistry I	6	CHEM 2210, 2219*	Organic Chemistry I and Lab* <small>*CHEM 2219 Lab applies to the degree as a Track Elective (non-engineering).</small>	4
CHM 243	Organic Chemistry II	6	CHEM 2220, 2229*	Organic Chemistry II and Lab* <small>CHEM 2229 Lab applies to the degree as a Track Elective (non-engineering).</small>	4
BIO 101 or BIO 160	Life 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 160 or CSC 210 or CSC 140*	Python Programming I (3) or Data Structures (4) or C++ Programming I (4)	3	CS 1500 or CS 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* (C++) <small>*Will be substituted for CS 1500.</small>	3
EGR 201	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	36		Group 2 Major Requirements	30
	Group 1 Core Requirements	38		Group 1 Core Requirements	35
	Total Hours	74		Total Hours*	65

*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

Ozarks Technical Community College		Semester	Missouri S&T		
DDT 200	Production Design Drafting	4	MECH ENG 1720	Intro to Engineering Design	3
HST 106 or HST 120 or HST 130 or PLS 101	Modern World History or US History I: to 1865 or US History II: 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
EGR 201	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CHM 242	Organic Chemistry I	5	CHEM 2210/2219*	Organic Chemistry I and Lab* <small>(CHEM 2210 will satisfy a technical elective requirement. CHEM 2219 will transfer as elective credit.)</small>	5
CHM 170	General Chemistry II	4	CHEM 1320	General Chemistry II	3
ENG 102 or COM 105 or HSS Elective	Composition II or Public Speaking or Humanities/Social Science Elective: 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	28		Group 2 Major Requirements	26
	Group 1 Core Requirements	38		Group 1 Core Requirements	35
	Total Hours	66		Total Hours*	61

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

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

Ozarks Technical Community College		Semester	Missouri S&T		
DDT 200	Production Design Drafting	4	MECH ENG 1720	Intro to Engineering Design	3
COM 105	Public Speaking	3	SP&MS 1185	Principles of Speech	3
ENG 150	Technical Writing	3	ENGLISH 3560	Technical Writing	3
HST 106 or HST 120 or HST 130 or PLS 101	Modern World History or US History I: to 1865 or US History II: 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
CHM 170	General Chemistry II	4	CHEM 1320	General Chemistry II	3
CHM 242	Organic Chemistry I	5	CHEM 2210, 2219*	Organic Chemistry I and Lab* <small>*The lab will apply to the degree as 1 of the 9 science elective credits (below).</small>	4
CHM 243	Organic Chemistry II	5	CHEM 2220, 2229*	Organic Chemistry II (4) and Lab* (1) <small>*Note: CHEM 2229 is not an S&T degree requirement; course will transfer as elective credit.</small>	4
CSC 160 or CSC 210 or CSC 140*	Python Programming I (3) or Data Structures (4) or C++ Programming I (4)	3	CS 1500 or CS 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* (C++) <small>*Will be substituted for CS 1500.</small>	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	33		Group 2 Major Requirements	29
	Group 1 Core Requirements	38		Group 1 Core Requirements	35
	Total Hours	71		Total Hours*	64

*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

Ozarks Technical Community College		Semester	Missouri S&T		
DDT 200	Production Design Drafting	4	MECH ENG 1720	Intro to Engineering Design	3
ENG 102 or COM 105 or ENG 150	Composition II or Public Speaking or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
HST 106 or HST 120 or HST 130 or PLS 101	Modern World History or US History I: to 1865 or US History II: 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
PHY 110	Intro to Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
EGR 201	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 205	Engineering Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	23		Group 2 Major Requirements	20
	Group 1 Core Requirements	38		Group 1 Core Requirements	35
	Total Hours	61		Total Hours*	55

*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>Ozarks Technical Community College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
COM 105	Public Speaking	3	SPMS 1185	Principles of Speech	3
ENG 102 or ENG 150	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HST 106 or HST 120 or HST 130 or PLS 101	Modern World History or US History I: to 1865 or US History II: 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
CSC 160 or CSC 210 or CSC 140*	Python Programming I (3) or Data Structures (4) or C++ Programming I (4)	3	CS 1500 or CS 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* <small>*Will be substituted for CS 1500.</small>	3
EGR 204 or CHM 242 or BIO 250	Statics and Dynamics (3) or Organic Chemistry I (5) or Genetics (3)	3	MECH 2340 or CHEM 2210 or BIO SCI 2223	Statics and Dynamics (3) or Organic Chemistry I (4) or General Genetics (3)	3
MTH 230 or MTH 215	Linear Algebra or Algebraic Structures	3	MATH 3108 or MATH 3109	Linear Algebra or Foundations of Mathematics <small>Will satisfy a required math elective.</small>	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	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	24		Group 2 Major Requirements	24
	Group 1 Core Requirements	38		Group 1 Core Requirements	35
	Total Hours	62		Total Hours*	59

*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>Ozarks Technical Community College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
DDT 200	Production Design Drafting	4	MECH ENG 1720	Intro to Engineering Design	3
COM 105	Public Speaking	3	SPMS 1185	Principles of Speech	3
ENG 102 or ENG 150	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HST 106 or HST 120 or HST 130 or PLS 101	Modern World History or US History I: to 1865 or US History II: 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
CSC 160 or CSC 210 or CSC 140*	Python Programming I (3) or Data Structures (4) or C++ Programming I (4)	3	CS 1500 or CS 1971,1981*	Computational Problem Solving or Intro to Programming Methodology and Lab* <small>*Will be substituted for CS 1500.</small>	3
EGR 204 or CHM 242 or BIO 250	Statics and Dynamics (3) or Organic Chemistry I (5) or Genetics (3)	3	MECH ENG 2340 or CHEM 2210 or BIO SCI 2223	Statics and Dynamics or Organic Chemistry I or General Genetics	3
MTH 230	Linear Algebra	3	MATH 3108	Linear Algebra	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	28		Group 2 Major Requirements	27
	Group 1 Core Requirements	38		Group 1 Core Requirements	35
	Total Hours	66		Total Hours*	62

*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>Ozarks Technical Community College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
DDT 200	Production Design Drafting	4	MECH ENG 1720	Intro to Engineering Design	3
PSY 110	Intro to Psychology	3	PSYCH 1101	General Psychology	3
HST 106 or HST 120 or HST 130 or PLS 101	Modern World History or US History I: to 1865 or US History II: 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
COM 105	Public Speaking	3	SPMS 1185	Principles of Speech	3
ENG 102 or ENG 150	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
CSC 140	C++ Programming I	3	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
EGR 201	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 205	Engineering Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	3	Electives	Maximum Free Electives	0
	Group 2 Major Requirements	31		Group 2 Major Requirements	26
	Group 1 Core Requirements	38		Group 1 Core Requirements	35
	Total Hours	69		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>Ozarks Technical Community College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
DDT 200	Production Design Drafting	4	MECH ENG 1720	Intro to Engineering Design	3
ENG 102 or COM 105 or ENG 150	Composition II or Public Speaking or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
HST 106 or HST 120 or HST 130	Modern World History or US History I: to 1865 or US History II: 1865-Present	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310	Modern Western Civilization or American History to 1877 or American History since 1877	3
PHY 110	Intro to Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
CHM 170	General Chemistry II	4	CHEM 1320	General Chemistry II	3
BIO 100 or BIO 160	Life Science or General Biology I	4	BIO SCI 1113, 1119*	General Biology and Lab*	3
EGR 201	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 205	Engineering Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	31		Group 2 Major Requirements	26
	Group 1 Core Requirements	38		Group 1 Core Requirements	35
	Total Hours	69		Total Hours*	61

*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>Ozarks Technical Community College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
DDT 200	Production Design Drafting	4	MECH ENG 1720	Intro to Engineering Design	3
ENG 150	Technical Writing	3	ENGLISH 3560	Technical Writing	3
HST 106 or HST 120 or HST 130 or PLS 101	Modern World History or US History I: to 1865 or US History II: 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
CSC 160 or CSC 210 or CSC 140*	Python Programming I (3) or Data Structures (4) or C++ Programming I (4)	3	CS 1500 or CS 1971, 1981	Computational Problem Solving or Intro to Programming Methodology and Lab	3
PHY 110	Intro to Geology	4	GEO ENG 1150 (GEOLOGY 1110)	Physical and Environmental Geology	3
EGR 201	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 205	Engineering Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	29		Group 2 Major Requirements	26
	Group 1 Core Requirements	38		Group 1 Core Requirements	35
	Total Hours	67		Total Hours*	61

*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>Ozarks Technical Community College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
DDT 200	Production Design Drafting	4	MECH ENG 1720	Intro to Engineering Design	3
HST 106 or HST 120 or HST 130 or PLS 101	Modern World History or US History I: to 1865 or US History II: 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
ENG 102 or COM 105 or ENG 150	Composition II or Public Speaking or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
CSC 140	C++ Programming	4	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
EGR 201	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
MTH 230	Linear Algebra	3	MATH 3108	Linear Algebra I <small>Will satisfy the Advanced Math/Computer Science elective requirement.</small>	3
ENG 240 or ENG 270 or ENG 260	Survey of English Literature I or Survey of American Literature I or Survey of World Literature I or other literature	3	ENGLISH 1211 or ENGLISH 1221 or ENGLISH 1231	British Literature I: The Beginnings to 1800 or American Literature: 1600 to 1865 or World Literature or other literature	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	26		Group 2 Major Requirements	24
	Group 1 Core Requirements	38		Group 1 Core Requirements	35
	Total Hours	64		Total Hours*	59

*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>Ozarks Technical Community College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
DDT 200	Production Design Drafting	4	MECH ENG 1720	Intro to Engineering Design	3
ENG 102 or COM 105 or ENG 150	Composition II or Public Speaking or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
HST 106 or HST 120 or HST 130 or PLS 101	Modern World History or US History I: to 1865 or US History II: 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
EGR 201	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
CHM 170	General Chemistry II	4	CHEM 1320	General Chemistry II	3
CHM 242	Organic Chemistry I	5	CHEM 2210, 2219*	Organic Chemistry I and Lab* <small>*The lab is not an S&T degree requirement, transfers as general electric 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	33		Group 2 Major Requirements	27
	Group 1 Core Requirements	38		Group 1 Core Requirements	35
	Total Hours	71		Total Hours*	62

*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>Ozarks Technical Community College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
DDT 200	Production Design Drafting	4	MECH ENG 1720	Intro to Engineering Design	3
ENG 102 or ENG 150	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HST 106 or HST 120 or HST 130 or PLS 101	Modern World History or US History I: to 1865 or US History II: 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
EGR 201	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 205	Engineering Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
PHY 110	Intro to 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	26		Group 2 Major Requirements	23
	Group 1 Core Requirements	38		Group 1 Core Requirements	35
	Total Hours	64		Total Hours*	58

*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>Ozarks Technical Community College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
DDT 200	Production Design Drafting	4	MECH ENG 1720	Intro to Engineering Design	3
ENG 102 or COM 105 or ENG 150	Composition II or Public Speaking or Technical Writing	3	ENGLISH 1160 or SPMS 1185 or ENGLISH 3560	Writing and Research or Principles of Speech or Technical Writing	3
HST 106 or HST 120 or HST 130 or PLS 101	Modern World History or US History I: to 1865 or US History II: 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
CSC 140	C++ Programming	4	CS 1971, 1981	Intro to Programming Method and Lab (C++)	3
MTH 230 or MTH 215	Linear Algebra or Algebraic Structures	3	MATH 3108 or MATH 3109	Linear Algebra or Foundations of Mathematics	3
EGR 201	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	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	32		Group 2 Major Requirements	30
	Group 1 Core Requirements	38		Group 1 Core Requirements	35
	Total Hours	70		Total Hours*	65

*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>Ozarks Technical Community College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
DDT 200	Production Design Drafting	4	MECH ENG 1720	Intro to Engineering Design	3
ENG 102 or ENG 150	Composition II or Technical Writing	3	ENGLISH 1160 or ENGLISH 3560	Writing and Research or Technical Writing	3
HST 106 or HST 120 or HST 130 or PLS 101	Modern World History or US History I: to 1865 or US History II: 1865-Present or American Government and Politics	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
PHY 110	Intro to Geology	4	GEOLOGY 1110 (GEO ENG 1150)	Physical and Environmental Geology	3
EGR 201	Engineering Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
EGR 205	Engineering Dynamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	26		Group 2 Major Requirements	23
	Group 1 Core Requirements	38		Group 1 Core Requirements	35
	Total Hours	64		Total Hours*	58

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