

Southeastern Illinois College — Missouri S&T

General Engineering Transfer Guide

Effective as of Fall 2023

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>Southeastern Illinois College</u>			<u>Semester</u>	<u>Missouri S&T</u>			
MATH 162	Calculus & Analytical Geometry I	5		MATH 1214	Calculus I	4	
MATH 221	Calculus & Analytical Geometry II	5		MATH 1215	Calculus II	4	
MATH 222	Calculus & Analytical Geometry III	5		MATH 2222	Calculus III	4	
MATH 225	Differential Equations	3		MATH 3304	Elementary Differential Equations	3	
PHYS 221	General Physics I	5		PHYSICS 1135	Engineering Physics I	4	
PHYS 222	General Physics II	5		PHYSICS 2135	Engineering Physics II	4	
CHEM 121	General Chemistry I	5		CHEM 1310, 1319	General Chemistry I and Lab	5	
ENG 121	Rhetoric and Composition I	3		ENGLISH 1120	Exposition and Argumentation	3	
ECON 122 or	Principles of Microeconomics or	3		ECON 1100 or	Principles of Microeconomics or	3	
ECON 121	Principles of Macroeconomics	3		ECON 1200	Principles of Macroeconomics	3	
Total Hours			39	Total Hours			34

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

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

Aerospace Engineering
Architectural Engineering
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>Southeastern Illinois College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
HIST 122 or HIST 241 or HIST 242 or GOVT 121	History of Western Civilization or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
ENG 122 or COM 121	Rhetoric and Composition II or Principles of Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
PHYS 241	Statics	3	CIV ENG 2200	Engineering Mechanics - Statics	3
	Literature Elective	3		Literature Elective	3
	Ethics Elective	3		Ethics Elective	3
	<i>No free electives applied to the degree.</i>	0		Engineering, business, bio, social or other ethics approved by advisor.	3
	Group 2 Major Requirements	15		Maximum Free Electives	0
	Group 1 Core Requirements	39		Group 2 Major Requirements	15
	Total Hours	54		Group 1 Core Requirements	34
				Total Hours*	49

*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>Southeastern Illinois College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
HIST 122 or HIST 241 or HIST 242	History of Western Civilization or American History I or American History II	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
PHYS 241	Statics	3	CIV ENG 2200	Engineering Mechanics - Statics	3
PHYS 242	Dynamics	3	MECH ENG 2350	Engineering Mechanics - Dynamics	2
HSS Elective	Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language	3	HSS Elective	Humanities/Social Science Elective: history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	12		Group 2 Major Requirements	11
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	Total Hours	51		Total Hours*	45

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

Ceramic Engineering Group 2 Major Requirements

<u>Southeastern Illinois College</u>	<u>Semester</u>	<u>Missouri S&T</u>
HIST 122 or HIST 241 or HIST 242 or GOVT 121	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200
PHYS 241	3	CIV ENG 2200
CHEM 122	5	CHEM 1320
ENG 122 or COM 121 or HSS Elective	3	ENGLISH 1160 or SPMS 1185 or HSS Elective
	3	
	3	
	0	
	17	
	39	
Total Hours	56	Total Hours*
		49

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

Chemical Engineering Group 2 Major Requirements

<u>Southeastern Illinois College</u>	<u>Semester</u>	<u>Missouri S&T</u>
COM 121	3	SPMS 1185
HIST 122 or HIST 241 or HIST 242 or GOVT 121	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200
CHEM 122	5	CHEM 1320
	3	
	0	
	14	
	39	
Total Hours	53	Total Hours*
		46

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

Chemical Engineering - Biochemical Engineering Emphasis Group 2 Major Requirements

<u>Southeastern Illinois College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
COM 121	Principles of Speaking	3	SPMS 1185	Public Speaking	3
HIST 122 or HIST 241 or HIST 242 or GOVT 121	History of Western Civilization or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
CHEM 122	General Chemistry and Qualitative Analysis	5	CHEM 1320	General Chemistry II	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	14		Group 2 Major Requirements	12
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	Total Hours	53		Total Hours*	46

*S&T advisor permission is required to transfer more than 70 credits toward the S&T Chemical/Biochemical Engineering degree.

Civil Engineering Group 2 Major Requirements

<u>Southeastern Illinois College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENG 122 or COM 121	Rhetoric and Composition II or Principles of Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HIST 122 or HIST 241 or HIST 242 or GOVT 121	History of Western Civilization or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
PHYS 241	Statics	3	CIV ENG 2200	Engineering Mechanics - Statics	3
PHYS 242	Dyanamics	3	MECH ENG 2350	Engineering Mechanics - Dynamics	2
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	15		Group 2 Major Requirements	14
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	Total Hours	54		Total Hours*	48

*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>Southeastern Illinois College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
COM 121	Principles of Speaking	3	SPMS 1185	Public Speaking	3
ENG 122	Rhetoric and Composition II	3	ENGLISH 1160	Writing and Research	3
HIST 122 or HIST 241 or HIST 242 or GOVT 121	History of Western Civilization or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
PHYS 241 or PHYS 242	Statics or Dynamics	3	CIV ENG 2200 or MECH ENG 2350	Engineering Mechanics-Statics (3) or Engineering Mechanics-Dynamics (2) <small>Satisfies a required engineering/science elective.</small>	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Maximum Free Electives	3		Maximum Free Electives	3
	Group 2 Major Requirements	18		Group 2 Major Requirements	18
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	Total Hours	57		Total Hours*	52

*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>Southeastern Illinois College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
COM 121	Principles of Speaking	3	SPMS 1185	Public Speaking	3
ENG 122	Rhetoric and Composition II	3	ENGLISH 1160	Writing and Research	3
HIST 122 or HIST 241 or HIST 242 or GOVT 121	History of Western Civilization or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
PHYS 241 and PHYS 242	Statics and Dynamics	6	CIV ENG 2200 and MECH ENG 2350	Engineering Mechanics-Statics (3) and Engineering Mechanics-Dynamics (2) <small>Satisfies a required engineering/science elective.</small>	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Maximum Free Electives	3		Maximum Free Electives	3
	Group 2 Major Requirements	21		Group 2 Major Requirements	18
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	Total Hours	60		Total Hours*	52

*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>Southeastern Illinois College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
PSYC 121	Intro to Psychology	3	PSYCH 1101	General Psychology	3
HIST 122 or HIST 241 or HIST 242 or GOVT 121	History of Western Civilization or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
COM 121	Principles of Speaking	3	SPMS 1185	Public Speaking	3
ENG 122	Rhetoric and Composition II	3	ENGLISH 1160	Writing and Research	3
PHYS 241	Statics	3	CIV ENG 2200	Engineering Mechanics - Statics	3
PHYS 242	Dyanamics	3	MECH ENG 2350	Engineering Mechanics - Dynamics	2
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Maximum Free Electives	3		Maximum Free Electives	3
	Group 2 Major Requirements	24		Group 2 Major Requirements	23
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	Total Hours	63		Total Hours*	57

*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>Southeastern Illinois College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENG 122 or COM 121	Rhetoric and Composition II or Principles of Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HIST 122 or HIST 241 or HIST 242	History of Western Civilization or American History I or American History II	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310	Modern Western Civilization or American History to 1877 or American History since 1877	3
CHEM 122	General Chemistry and Qualitative Analysis	5	CHEM 1320	General Chemistry II	3
BIOL 121	Intro to Biology	4	BIO SCI 1113	General Biology	3
PHYS 241	Statics	3	CIV ENG 2200	Engineering Mechanics - Statics	3
PHYS 242	Dyanamics	3	MECH ENG 2350	Engineering Mechanics - Dynamics	2
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	24		Group 2 Major Requirements	20
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	Total Hours	63		Total Hours*	54

*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>Southeastern Illinois College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
HIST 122 or HIST 241 or HIST 242 or GOVT 121	History of Western Civilization or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
PHYS 241	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHYS 242	Dyanamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
BIOL 121 or CHEM 122	Intro to Biology or General Chemistry II and Qualitative Analysis	4	BIO SCI 1113 or CHEM 1320	General Biology or General Chemistry II <small>or any 3-hour course in chemistry, geochemistry, or biology. Satisfies chemistry/geochemistry elective requirement.</small>	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	19		Group 2 Major Requirements	17
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	Total Hours	58		Total Hours*	51

*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>Southeastern Illinois College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
HIST 122 or HIST 241 or HIST 242 or GOVT 121	History of Western Civilization or American History I or American History II or American Government	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
ENG 122 or COM 121	Rhetoric and Composition II or Principles of Speaking	3	ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
PHYS 241	Statics	3	CIV ENG 2200	Engineering Mechanics - Statics	3
	Literature Elective	3		Literature Elective	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	15		Group 2 Major Requirements	15
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	Total Hours	54		Total Hours*	49

*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

Metallurgical Engineering Group 2 Major Requirements						
<u>Southeastern Illinois College</u>			<u>Semester</u>	<u>Missouri S&T</u>		
ENG 122 or COM 121	Rhetoric and Composition II or Principles of Speaking	3		ENGLISH 1160 or SPMS 1185	Writing and Research or Principles of Speech	3
HIST 122 or HIST 241 or HIST 242 or GOVT 121	History of Western Civilization or American History I or American History II or American Government	3		HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
PHYS 241	Statics	3		CIV ENG 2200	Engineering Mechanics - Statics	3
CHEM 122	General Chemistry and Qualitative Analysis	5		CHEM 1320	General Chemistry II	3
	Humanities/Social Science Elective	3			Humanities/Social Science Elective	3
	Humanities/Social Science Elective	3			Humanities/Social Science Elective	3
	Maximum Free Electives	5			Maximum Free Electives	3
	Group 2 Major Requirements	25			Group 2 Major Requirements	21
	Group 1 Core Requirements	39			Group 1 Core Requirements	34
	Total Hours	64			Total Hours*	55

*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

Mining Engineering Group 2 Major Requirements						
<u>Southeastern Illinois College</u>			<u>Semester</u>	<u>Missouri S&T</u>		
ENG 122	Rhetoric and Composition II	3		ENGLISH 1160	Writing and Research	3
HIST 122 or HIST 241 or HIST 242 or GOVT 121	History of Western Civilization or American History I or American History II or American Government	3		HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or POL SCI 1200	Modern Western Civilization or American History to 1877 or American History since 1877 or American Government	3
PHYS 241	Statics	3		CIV ENG 2200*	Engineering Mechanics - Statics	3
PHYS 242	Dynamics	3		MECH ENG 2350	Engineering Mechanics - Dynamics	2
	Humanities/Social Science Elective	3			Humanities/Social Science Elective	3
	Humanities/Social Science Elective	3			Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0			Maximum Free Electives	0
	Group 2 Major Requirements	18			Group 2 Major Requirements	17
	Group 1 Core Requirements	39			Group 1 Core Requirements	34
	Total Hours	57			Total Hours*	51

*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>Southeastern Illinois College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENG 122	Rhetoric and Composition II	3	ENGLISH 1160	Writing and Research	3
HIST 122 or HIST 241 or HIST 242 or	History of Western Civilization or American History I or American History II or	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or	Modern Western Civilization or American History to 1877 or American History since 1877 or	3
GOVT 121	American Government		POL SCI 1200	American Government	
PHYS 241	Statics	3	CIV ENG 2200	Engineering Mechanics - Statics	3
PHYS 242	Dynamics	3	MECH ENG 2350	Engineering Mechanics - Dynamics	2
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Maximum Free Electives	6		Maximum Free Electives	6
	Group 2 Major Requirements	24		Group 2 Major Requirements	23
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	Total Hours	63		Total Hours*	57

*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>Southeastern Illinois College</u>		<u>Semester</u>	<u>Missouri S&T</u>		
ENG 122	Rhetoric and Composition II	3	ENGLISH 1160	Writing and Research	3
HIST 122 or HIST 241 or HIST 242 or	History of Western Civilization or American History I or American History II or	3	HISTORY 1200 or HISTORY 1300 or HISTORY 1310 or	Modern Western Civilization or American History to 1877 or American History since 1877 or	3
GOVT 121	American Government		POL SCI 1200	American Government	
PHYS 241	Statics	3	CIV ENG 2200	Engineering Mechanics - Statics	3
PHYS 242	Dynamics	3	MECH ENG 2350	Engineering Mechanics - Dynamics	2
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	Humanities/Social Science Elective	3		Humanities/Social Science Elective	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	18		Group 2 Major Requirements	17
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	Total Hours	57		Total Hours*	51

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