

# Southeastern Illinois 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>Southeastern Illinois College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>			
MATH 162	Calculus & Analytical Geometry I	5	MATH 1214	Calculus I <small>Grade of C or better is required.</small>	4	
MATH 221	Calculus & Analytical Geometry II	5	MATH 1215	Calculus II <small>Grade of C or better is required.</small>	4	
MATH 222	Calculus & Analytical Geometry III	5	MATH 2222	Calculus III <small>Grade of C or better is required.</small>	4	
MATH 225	Differential Equations	3	MATH 3304	Elementary Differential Equations	3	
PHYS 221	General Physics I	5	PHYSICS 1135	Engineering Physics I <small>Grade of C or better is required.</small>	4	
PHYS 222	General Physics II	5	PHYSICS 2135	Engineering Physics II <small>Grade of C or better is required.</small>	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 ECON 121	Principles of Microeconomics or Principles of Macroeconomics	3	ECON 1100 or ECON 1200	Principles of Microeconomics or 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**  
**Biomedical Engineering/Biomanufacturing or Biomaterials**  
**Ceramic Engineering**  
**Chemical Engineering and Biochemistry Emphasis**  
**Civil Engineering**  
**Computer Engineering**  
**Electrical Engineering**

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

Engineering Major Requirements are detailed on the following pages.

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

**Humanities/Social Science (HSS) Electives:** HSS electives may include any art, English and technical communication, etymology, foreign language, music, philosophy, speech and media studies, or theatre. Your campus may have additional acceptable options. Consult with your advisor or email [transfer@mst.edu](mailto:transfer@mst.edu) with questions. See Missouri S&T online catalog at <https://catalog.mst.edu/undergraduate/degreeprogramsandcourses/> for more information.

## Aerospace Engineering Group 2 Major Requirements

<u>Southeastern Illinois College</u>		<u>Semester</u>	<u>Missouri S&amp;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
	Engineering, business, bio, social or other ethics approved by advisor.			Engineering, business, bio, social or other ethics approved by advisor.	
	<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 Aerospace Engineering degree.

## Architectural Engineering Group 2 Major Requirements

<u>Southeastern Illinois College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
HIST 122 or HIST 241 or HIST 242	History of Western Civilization* (or American History I or American History II) <small>*HIST 122 is preferred; 241 or 242 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
PHYS 241	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHYS 242	Dyanamics	3	MECH ENG 2350	Engineering Mechanics-Dynamics	2
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 122, COM 121.	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	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.

## Biomedical Engineering-Biomanufacturing Group 2 Major Requirements

<u>Southeastern Illinois College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
COM 121	Principles of Speaking	3	SP&MS 1185	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
CHEM 122	General Chemistry and Qualitative Analysis	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&amp;T degree requirement. Will transfer as general credit.</small>	3
CHEM 241	Organic Chemistry I To receive credit for S&T CHEM 2219 Organic Chemistry I Lab, student must either complete SEIC CHEM 242 or take S&T CHEM 2219 on the S&T campus.	5	CHEM 2210	Organic Chemistry I (no lab) To receive credit for S&T CHEM 2219 Organic Chemistry I Lab, student must either complete SEIC CHEM 242 or take S&T CHEM 2219 on the S&T campus. *See note below regarding CHEM 2220.	3
CHEM 242 or BIOL 121	Organic Chemistry II* (5) or Introductory Biology (4) <small>*The equivalent of S&amp;T CHEM 2229 Organic Chemistry II Lab is not available at SEIC and can be taken on the S&amp;T campus.</small>	4	CHEM 2220* or BIO SCI 1113, 1219	Organic Chemistry II* (3) or General Biology and Lab (4) Applies to degree as Track Elective. <small>*The combination of SEIC CHEM 241 and 242 is equivalent to the combination of S&amp;T CHEM 2210, 2219, and 2220. CHEM 2229 is not available at SEIC and can be taken on the S&amp;T campus.</small>	3
BIOL 261	Human Anatomy and Physiology I	4	BIO SCI 3333, 3339	Anatomy and Physiology I and Lab	4
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	27		Group 2 Major Requirements	22
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	Total Hours	66		Total Hours*	56

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

## Biomedical Engineering-Biomaterials Group 2 Major Requirements

<u>Southeastern Illinois College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
COM 121	Principles of Speaking	3	SP&MS 1185	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
CHEM 122	General Chemistry and Qualitative Analysis	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&amp;T degree requirement. Will transfer as general credit.</small>	3
CHEM 241 and CHEM 242	Organic Chemistry I (5) and Organic Chemistry II (5) Both courses must be taken to receive full transfer credit as indicated.	10	CHEM 2210, 2219* and CHEM 2220	Organic Chemistry I and Lab* and Organic Chemistry II (no lab) <small>*CHEM 2219 Lab applies to the degree as a Track Elective (non-engineering).</small>	4
BIOL 121	Introductory Biology	4	BIO SCI 2213, 2219	Cell Biology and Lab	4
BIOL 261	Human Anatomy and Physiology I	4	BIO SCI 3333, 3339	Human Anatomy and Physiology I and Lab	4
PHYS 241	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	32		Group 2 Major Requirements	24
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	Total Hours	71		Total Hours*	58

\*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>Southeastern Illinois College</u>		<u>Semester</u>	<u>Missouri S&amp;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
CHEM 241	Organic Chemistry I	5	CHEM 2210	Organic Chemistry I <small>Will satisfy the advanced chemistry elective requirement.</small>	3
CHEM 122	General Chemistry and Qualitative Analysis	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&amp;T degree requirement. Will transfer as general credit.</small>	3
ENG 122 or COM 121 or HSS Elective	Rhetoric and Composition II or Principles of 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	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 Ceramic Engineering degree.

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

<u>Southeastern Illinois College</u>		<u>Semester</u>	<u>Missouri S&amp;T</u>		
COM 121	Principles of Speaking	3	SP&MS 1185	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
CHEM 122	General Chemistry and Qualitative Analysis	5	CHEM 1320, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&amp;T degree requirement. Will transfer as general credit.</small>	3
CHEM 241	Organic Chemistry I	5	CHEM 2210	Organic Chemistry I <small>*See note regarding CHEM 2220 below.</small>	3
CHEM 242 or BIOL 242	Organic Chemistry II (5) or Microbiology (4) <small>After completing CHEM 241, take both CHEM 242 and BIOL 242 to satisfy the 9-hour science elective requirement.</small>	9	CHEM 2220* or BIO SCI 3313, 3319	Organic Chemistry II* (3) or Microbiology and Lab (5) <small>Take both courses. Will satisfy the 9-hour science elective requirement when combined with CHEM 2219 (see note below). *The combination of SEIC CHEM 241 and 242 is equivalent to the combination of S&amp;T CHEM 2210, 2219, and 2220.</small>	9
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	24
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	Total Hours	67		Total Hours*	58

\*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>Southeastern Illinois College</u>		<u>Semester</u>	<u>Missouri S&amp;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	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	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&amp;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 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	18		Group 2 Major Requirements	18
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	<b>Total Hours</b>	<b>57</b>		<b>Total Hours*</b>	<b>52</b>

\*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&amp;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>	5
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	21		Group 2 Major Requirements	20
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	<b>Total Hours</b>	<b>60</b>		<b>Total Hours*</b>	<b>54</b>

\*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&amp;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	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>		Electives	Maximum Free Electives	0
	Group 2 Major Requirements	24		Group 2 Major Requirements	20
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	<b>Total Hours</b>	<b>63</b>		<b>Total Hours*</b>	<b>61</b>

\*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&amp;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, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&amp;T degree requirement. Will transfer as general credit.</small>	3
BIOL 121	Intro to Biology	4	BIO SCI 1113, 1219*	General Biology (3) and Lab* (1) <small>*BIO SCI 1219 is not an S&amp;T degree requirement, will transfer as general elective credit.</small>	3
PHYS 241	Statics	3	CIV ENG 2200	Engineering Mechanics-Statics	3
PHYS 242	Dyanamics	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	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&amp;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
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	15		Group 2 Major Requirements	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 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&amp;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 or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
	<i>No free electives applied to the degree.</i>	0		Maximum Free Electives	0
	Group 2 Major Requirements	15		Group 2 Major Requirements	15
	Group 1 Core Requirements	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

<u>Southeastern Illinois College</u>		<u>Semester</u>	<u>Missouri S&amp;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, 1510*	General Chemistry II (3) and Qualitative Analysis (2) <small>*CHEM 1510 is not an S&amp;T degree requirement. Will transfer as general credit.</small>	3
CHEM 241	Organic Chemistry I	5	CHEM 2210	Organic Chemistry I <small>Not specifically required for the degree but will satisfy out-of-department technical elective requirement</small>	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3	Humanities or Social Science	Any history, economics, political science, sociology, psychology, philosophy, fine art, literature, foreign language.	3
Electives	Maximum Free Electives	3	Electives	Maximum Free Electives	3
	Group 2 Major Requirements	28		Group 2 Major Requirements	24
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	Total Hours	67		Total Hours*	58

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

## Mining Engineering Group 2 Major Requirements

<u>Southeastern Illinois College</u>		<u>Semester</u>	<u>Missouri S&amp;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 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	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&amp;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
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	21		Group 2 Major Requirements	21
	Group 1 Core Requirements	39		Group 1 Core Requirements	34
	Total Hours	60		Total Hours*	55

\*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&amp;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 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	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.